TEXTILE BULLETIN

VOL. 62 AUGUST 1, 1942 NO. 11

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Long draft frames justify their cost only when they give full production.

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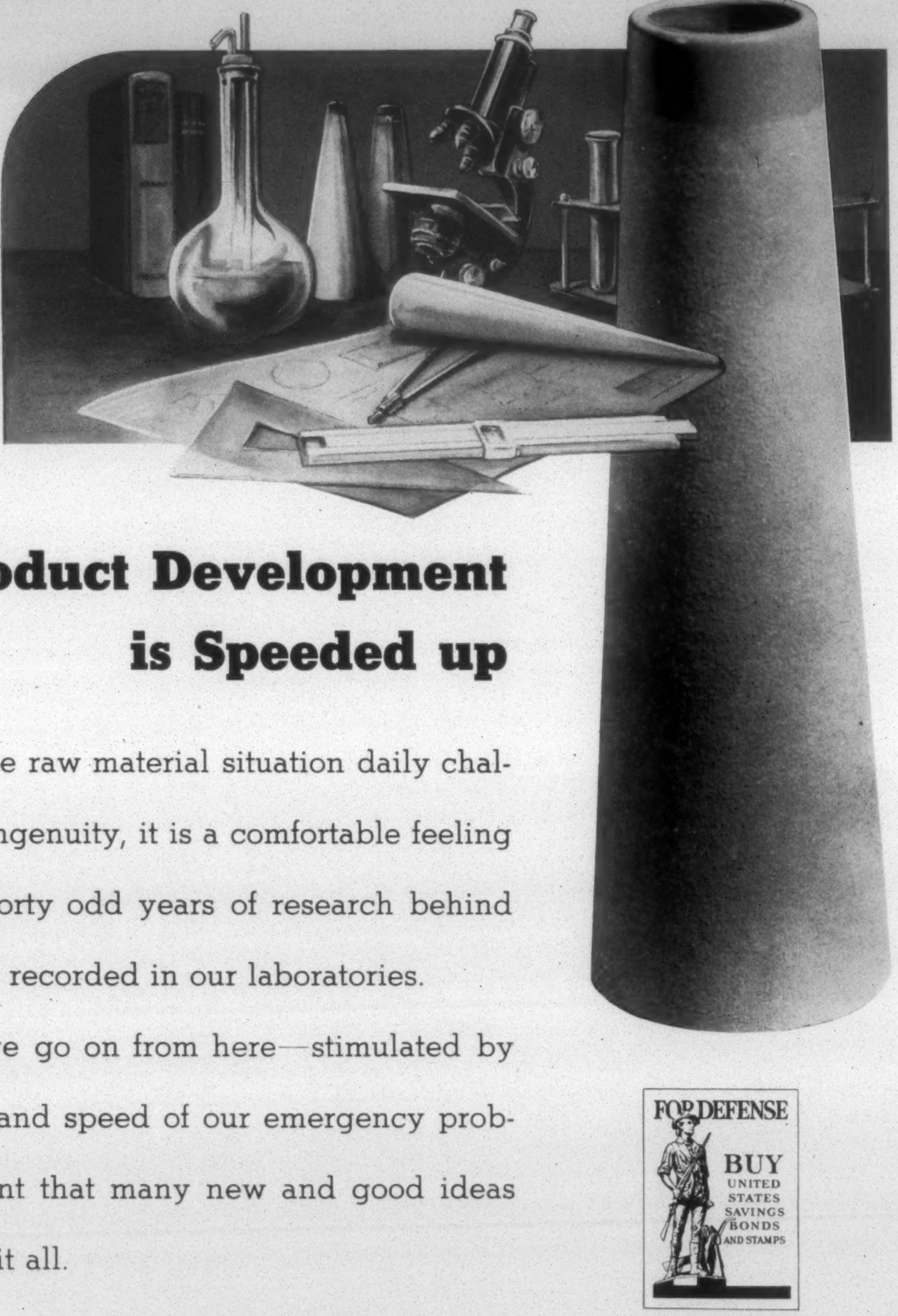

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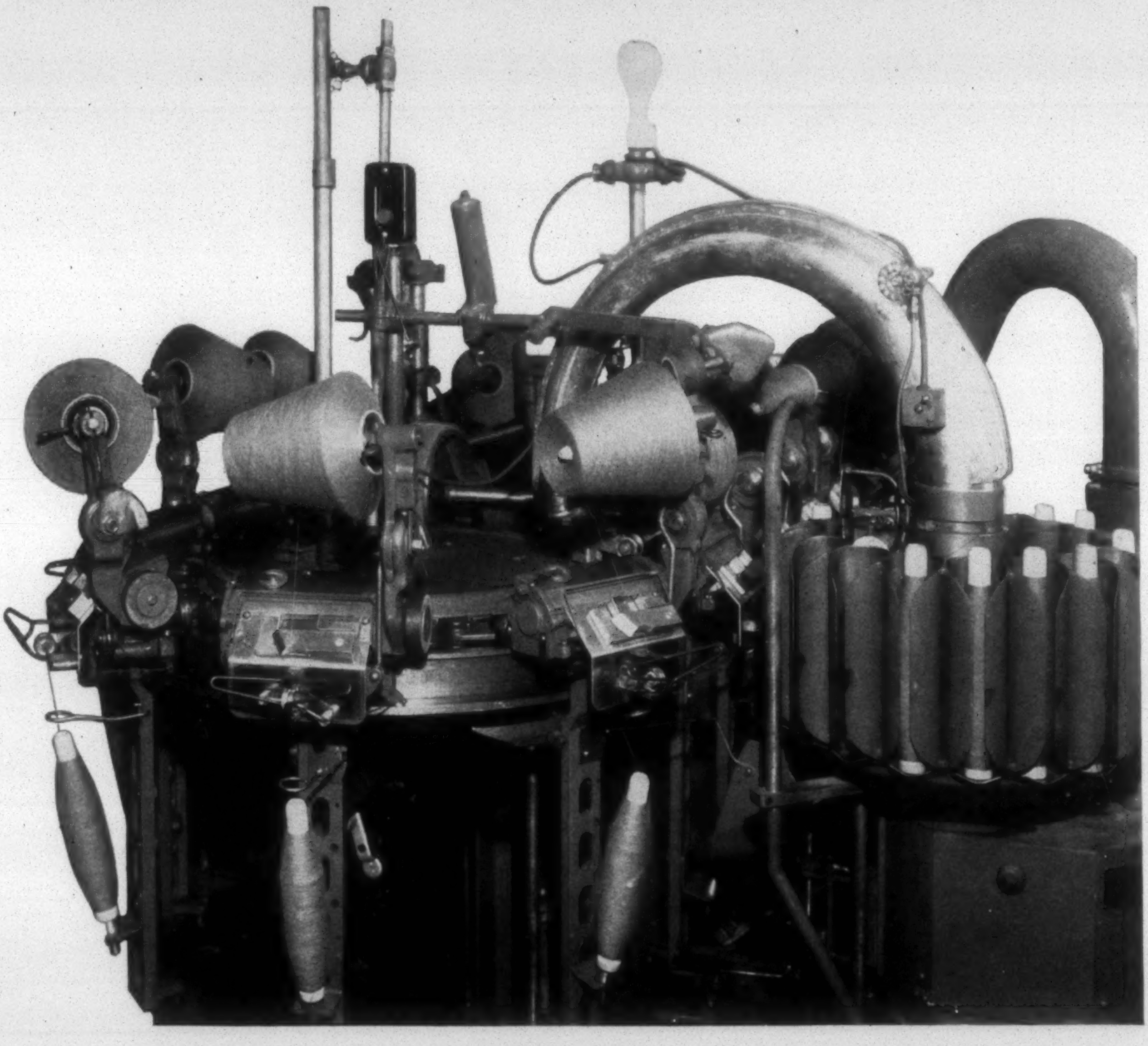

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WRITE FOR WORKING SAMPLE OR DEMONSTRATION

Guest Editorial

IT HARDLY makes sense to discuss the pattern of world-society, or even of American society, that will emerge with victory in the hands of the free peoples of the earth in the present globe-encircling war.

For one thing, the victory march and victory music and the victory prospect at the moment are not the possessions of these democratic forces. On the contrary, they belong to the enemy. The war is going none too well for the nations that fly the flag of freedom. If one were to base a final conclusion as to the results on the facts of the present case of the two contending powers, one would find but meager basis for conviction that democracy is going to prevail in the end.

Granted, however, that the triumph for the free nations is assured at long last, despite all of the muddlings and mismanagements, political and military blunders, that have so continuously marked their prosecution of the war effort, even in that event, the whole world will have been left in such a chaos of ruin and wreckage and devastation, both physical, material and ideological, that it is a part of sheer audacity to attempt to forecast with any degree of certainty and assurance what the new order will resemble.

It is clear enough what the eminent minds among the leaders within the democracies aspire to achieve for human society as a result of the present titanic conflict that is making a charnel house out of the earth.

Those of America are especially lucid and positive in their dreams of a new universal world order. They wish to establish a United States of the World based upon the American conceptions of a peace buttressed by laws and courts, of a government accepted by all peoples built around the democratic postulate of the "consent of the governed."

But whatever comes of this, it is obvious what the American peoples expect to issue out of this war so far as they are concerned.

It is no idle shibboleth with them that they are fighting for the democratic idea and ideal. With multitudes of them, that idea and ideal may be vague and somewhat nebulous, but it, nonetheless, represents to them the kind of social, political and economic living toward which they continue to aspire.

Democracy in America may not have meant all that it should have meant to the masses of this country, but as a dominant way and pattern of life, with all of its faults, they love it still and intend to keep it.

That is the common man's determination and America is a nation of common men. This mass-man of the United States has no idea of tolerating the establishment of some new-fangled form of government in his country that will cut squarely across the grain either of his tradition or his experience.

He is having a taste of totalitarianism today and it is an open secret that he does not care for it. Indeed, he resents it and when the necessity ends for invoking such undemocratic authority as the exigencies of war impose, he is going to resist any and every movement that would perpetuate it.

The rights which are being given up by the common man of America today are the same rights which he proposes to insist upon re-enjoyment in the world-after-the-war.

He wants to eat and to wear whatever he wants, and when he wants, and in whatever abundance he can afford, without either political or military interference or restrictions. He wants to find his own job in the private enterprise where he can do the best job for the highest wages.

Regimentation to him has a bitter and detestable taste. The self-denials and deprivations which it now imposes are being accepted only because they have to be accepted in the interest of winning the war, but when the necessity for this particular order of national life disappears, America is going back to its own way of its own individual right to elect its own conditions of living and of employment.

That democracy is the best form of government is no longer a theory with the common man of the United States. He knows now by *experience* that it is all of that, and woe to him, no matter how highly-placed or nationally important, be he an individual or a group of individuals, who would undertake to persuade the American masses away from the rule and reign of democracy in America.

And in this fact lies the sure hope for a return of the principle of private enterprise which, economically, is the centric nerve in the body of democratic faith.

Capitalistic business and liberal government are learning much about each other from the experiences they are having today in collaborating for victory. Some of the prejudices that have mutually existed are disappearing. The one is seeing virtue in the other that had never been seen before. The more intelligent set of politicians are coming into a new appreciation of the sanity and honesty of private American enterprise, and business and industrial leaders will come out of their present-day engagements with official Washington with a new understanding of the problems of government "of, for and by the people."

Nor will the vast body of American labor, despite some of its radical leadership, have any more respect for fascism or communism, or any other ism that is hostile to democracy, than the American man of the unorganized masses or the political statesman.

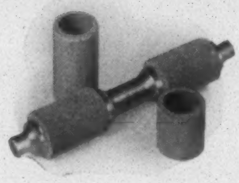
Intelligent labor leadership quite well understands that unless there is private management and private profits in business and industry, there can be no security and, therefore, no progress, and only the democratic order guarantees the system of private management and the principle of private profits.

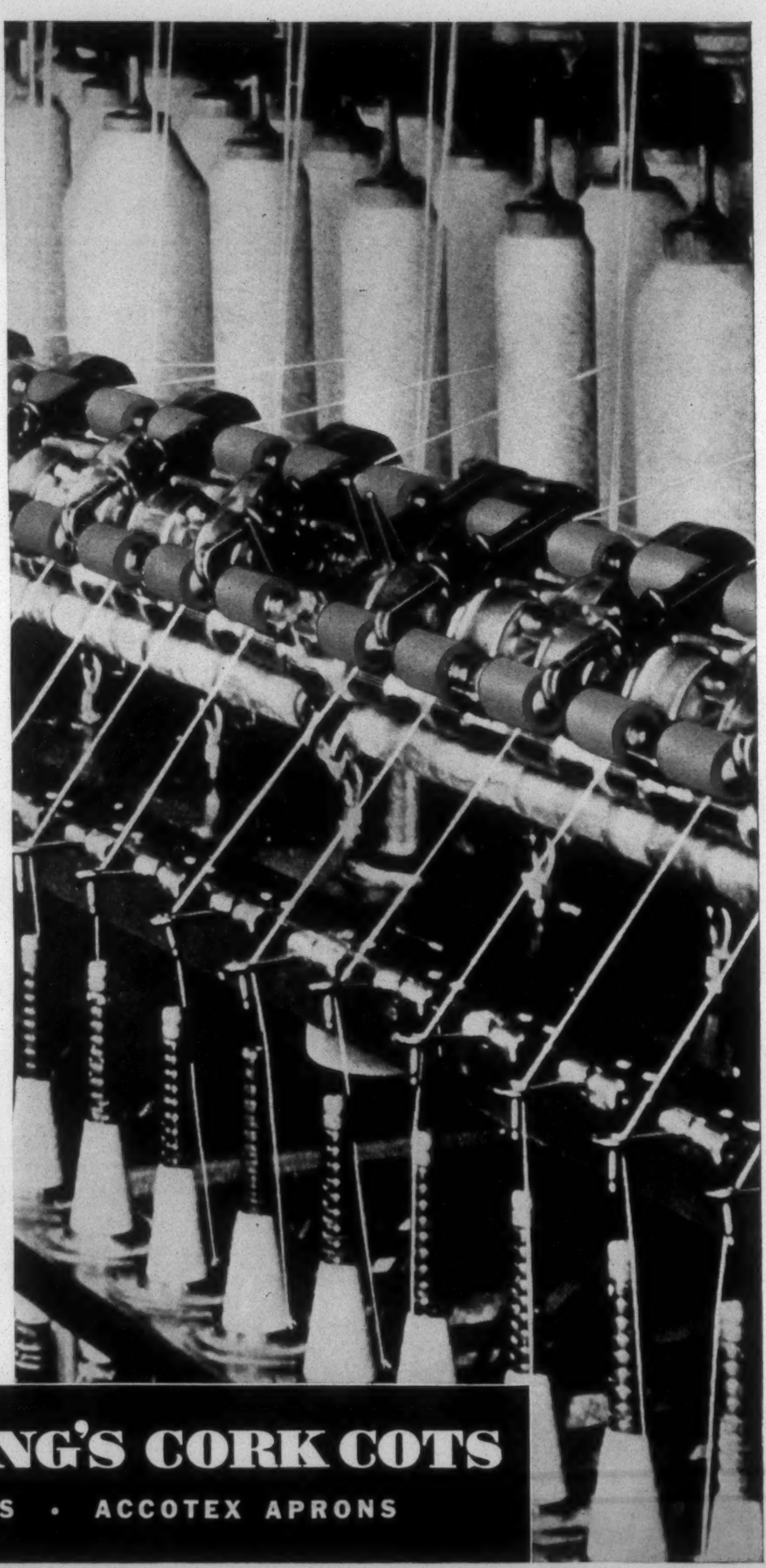
The surest prospect, therefore, of the pattern of human society that is to come out of the war, so far at least as the United States is concerned, is that democracy will be stronger in the popular mind and more permanently established as a way of living in America, no matter what this nation's influence may be in seeking to have other peoples accept it and be governed by its precepts.

Dr. Julian S. Miller

EDITOR OF THE CHARLOTTE OBSERVER

Why CORK serves the most spindles





APPROXIMATELY 9,750,000 spindles are running on Armstrong's Cork Cots—more spindles than are equipped with any other roll covering. These Cots have climbed to "first place" because, under all ordinary conditions, they spin the best yarn in the shortest time at the lowest cost.

Here are the reasons: First, cork possesses a higher coefficient of friction than any other roll covering material. This advantage assures positive drafting and prevents eyebrowing. Secondly, cork is more resilient—provides a better "cushion"—which results in better running work. Thirdly, not only is its initial cost low, but cork has proved itself by far the least expensive roll covering on the basis of long-range usage. Armstrong's Cork Cots have a long initial life, and they can be rebuffed 3 to 4 times for greatly extended service.

To make certain that mills using Armstrong's Cork Cots benefit fully from these advantages, Armstrong roll covering specialists are on the road as usual.

And remember—if you need synthetic cots for extra-heavy duty, you can get immediate delivery of Armstrong's Accotex Cots. Orders for Accotex Long Draft Aprons also can be filled promptly. Armstrong Cork Co., Textile Products Section, 921 Arch Street, Lancaster, Penna.

ARMSTRONG'S CORK COTS

ACCOTEX COTS • ACCOTEX APRONS

TEXTILE BULLETIN

Member Audit Bureau of Circulations

Vol. 62 August 1, 1942 No. 11

Enlisted for the Victory

BIBB DOES OUTSTANDING JOB OF BRINGING WAR HOME TO WORKERS

MAKING workers aware of their importance to the war effort is a difficult job. The war is far away, or at least the fighting is, and the worker's individual problems are right with him. Textile mills, even those working on direct war orders, have been having trouble with workers staying away from their jobs part of the week during the hot weather.

Working is unpleasant during hot, humid days. Almost anyone would rather stay home. And a great many workers take the attitude that the small amount of production lost through their absence is unimportant. However, when this attitude is multiplied by thousands the loss of production does become important. One of the reasons for this indifference, we believe, is the fact that the workers in a great many cases have not been informed fully on the importance of their jobs. They don't realize that they are producing fighting materials, that they are producing goods today that will be at the fighting front in the not so distant future, helping to defeat our enemies.

An outstanding job of bringing the war down to the individual has been done by Bibb Mfg. Co., with plants at Macon, Porterdale and Columbus, Ga. A booklet, "Enlisted for Victory," contains the story of Bibb's contribution to the war effort, and is being distributed to all workers.

Portions of this booklet are reprinted here, but a great deal of the effectiveness of the work is due to the free use of illustrations, showing vividly the part of textiles in combat. A full page painting appears on each right hand page, illustrating the copy on the left hand pages. Each sub-head below represents a page in the booklet.

Introduction

The men and women who work in the Bibb plants have enlisted for Victory and will not break faith with those who suffered and died at Pearl Harbor, Bataan, Singapore and elsewhere along our far-flung battle line.

As rationing of things they have long enjoyed becomes a necessity, Bibb workers are tightening their belts and bending to their tasks with a grim determination to achieve the greatest possible results so that our fighting men may lack nothing that contributes to their comfort or adds to the equipment needed for top-flight performance.

The Bibb Family realizes its responsibilities and is meeting the challenge presented by the tragic conditions gripping the world today.

We realize that human liberty, the sacredness of the individual, the sanctity of the home, and freedom to worship God are all in jeopardy and that the combined efforts of all who believe these things to be essential to happiness will be needed to prevent them from being blotted out of the world.

The men and women who stay at home to spin and weave and fabricate the equipment needed by men at the front are doing a work that is just as necessary as any other war activity. Their patriotism is just as true and their willingness to sacrifice just as great as that of those who fight in the line of battle.

With pride in the knowledge of giving our best, with the belief that we are doing our full part, and with the determination to do our duty as Americans, the Bibb Family pledges its faith and service for the duration.

It is an honor to have a part in this job.

WM. D. ANDERSON,
Chairman.

"Sharks for Victory"

The dawn patrol of our far-flung western coast begins its flight hours before the first rays of the rising sun creep over the Rocky Mountains to the East.

As those in the planes search every foot of ground beneath them for signs of enemy activity, which is most likely to come in the early morning hours, the keen eyes of the pilot and the observer see many small craft putting out from the various ports up and down the coast. These craft are the boats of fishermen headed for spots approximately 50 miles from shore, where they will put out their lines and nets about the time that daylight brings the ease and keenness of vision to ordinary mortals which the dawn patrol pilots and observers must have even through the darkness of the night.

Not many of the pilots and observers realize that the mission of these fishing boats is directly connected with providing the very keenness of vision at night which makes it possible for the patrol to see them leave port.

If you ask the average man what he would need to carry on a victorious war, he would surely say ships, tanks, guns, men, food, planes, and on and on for a long, long list of things. He might even remember that he would need camels, pigeons, mules and husky dogs, but there is slight chance that, no matter how long he made his list, he would ever realize that, to win a modern war, he would have trouble aplenty if he did not also have a good supply of sharks.

Sharks are what the boats are going after which the men of the dawn patrol see below them. Science has discovered that keenness of vision by day, and particularly by night, is impossible without a sufficient supply of Vitamin A in the diet. Cod liver oil supplies this vitamin, but the bulk of the supplies has been cut off by the war. As a result, science has discovered that shark liver oil carries nearly twenty times the Vitamin A potency of the oil of other fish. Shark liver oil is almost 100 times as potent in the sight-giving vitamin as is cod liver oil.

No wonder the Army authorities see to it that all men who man our planes get a full quota of this vital substance with their food. Most of it comes from the once despised soupfin shark whose liver is from 10% to 25% of the entire weight of the fish. They are caught on the Pacific Coast in the area from shore to 50 miles out by nets and with hook maitre.

Most of the nets and maitre cord lines used are produced in Porterdale Mill by Bibb top-flight Victory workers. As the dawn patrol takes to the sky, the safety of the men in the planes as well as that of the thousands sleeping below them is aided by Bibb folks in Porterdale Mill in one more example of the countless ways by which Bibb workers are contributing to the defense and victory of America.

"Now You See It—Now You Don't"

When we see a magician takes a rabbit from a hat or make a woman disappear, all except her head, we think he is clever—and he is. But Bibb folks are taking a vital part in some of the most gigantic feats of magic ever known. Whole regiments are made to disappear right before the keen searching eyes of the enemy. An air field, complete with planes, guns and men may be right in plain sight of the trained eyes of an enemy air observer, but he cannot see them any more than you can see your pocketbook when a stage magician gets through applying his art to it.

The magician does it with mirrors, but Bibb folks do their part of these grand tricks with twine. Seine twine, made in the Porterdale Mill.

We watch the tricks of the stage magician for fun, but these tricks with seine twine are in deadly earnest. Liberty and our democratic way of life are fighting for their very existence. It is all a part of the gigantic plan of defense of our lives and homes and liberties.

Porterdale Mill makes the seine twine. Bibb customers make the twine into camouflage nets.

These nets are used to cover big guns in place ready to beat off an attack from land, sea and air. The nets may be fixed up with artificial grass, leaves, boughs and many other things to make the place they cover look like anything except what it is. That is the main advantage of camouflage nets. They can be used to make imitations of almost any kind, they are easily packed up and moved in a hurry from place to place and may be fixed up to look like a lawn one time and a lake or a rock pile or even woods the next.

No other one of the many defense materials being made from Bibb products can be more truly called a defense item. Bibb folks have made the most and the best seine twine per year for a longer number of years than any other concern in America. Now, this experience and skill and loyalty of Bibb top-flight workers in Porterdale Mill are contributing invaluable service to our country at war.

"Ten Men in a Boat"

Into the misty dawn, far out over the wastes of the Pacific Ocean, an American bomber wings its way. The observers, the gunners, the radio operators, the bombardiers, even the pilots, strain their eyes in the dim half light, seeking a telltale wisp of smoke that will disclose the presence of the treacherous enemy. Already they have have learned that he will stab in the back, and the rear observer and gunners are especially alert.

This mission of American bombers and scout planes is serious and dangerous business. But the warriors of America just take it all in the day's work. Any moment a squadron of enemy planes may come diving and screeching out of a low hanging cloud spitting death and destruction. Since the American bombers are land planes, they will sink in a few minutes if forced down on the water, and they may be hundreds of miles from land.

Even should this happen, America's brave defenders have a chance to survive*—a chance which Bibb folks at Osprey Mill are helping to give them.

In their plane, is a folded, rubberized canvas boat or raft, limp and flat and stored in a small space. But immediately when their plane strikes the water, one of the crew opens a port in the plane, grabs the folded boat and squeezes with his fingers on a spot marked with colored paint as he throws the canvas boat into the sea. By the time the crew can jump into the water and swim with emergency provisions to the boat, a tube of compressed gas has inflated their boat, some types of which can easily hold up to ten men with provisions until rescuers in ships or sea planes called by radio can find and take them from the sea.

The boat which saved their lives is made of duck spun, twisted and woven by Bibb top-flight defense workers in Osprey Mill.

It is the same duck and the same type of boat that is used by the engineers to transport infantry across a stream or lake. The same type of boat rides also in bombers being ferried across the Atlantic to help our allies in Europe.

Now, even tanks can be carried across water in the newest and largest of these boats. Almost every day new ways are found to use them to win the victory for liberty and decency. Each new use is a new way through which

*Pilot Harold Dixon, Radioman Gene Aldrich and Ordnanceman Tony Pastulas spent thirty-four days in such a raft when their Navy bomber was forced down at sea. These intrepid men sailed and were blown one thousand miles through one of the worst South Sea hurricanes in history, finally making landfall safely on one of the Hawaiian Island group. Their boat was made by Goodyear Tire and Rubber Co. of the special duck produced by Bibb workers.

Bibb workers contribute their skill and loyalty to America's victory.

Panzer Hangers

Every Bibb worker has a right to glow with pride every time he looks aloft to see one of the many gigantic planes which weave across American skies today. The steady droning roar of the motors singing a song of America's increasing strength might fail in times of greatest emergency were it not for duck made right in our own Osprey Mill at Porterdale.

One of the problems in connection with air defense is proper shelter for aircraft motors while they are being overhauled or repaired under conditions which do not make it possible to get back to the headquarters hangars. The answer of the United States Army Air Corps to this problem is a new portable aircraft shelter called a "panzer hangar." It has a framework of tubular steel with a covering of duck made in our Osprey Mill which has been specially treated to make it gasoline-proof, oil-proof, water-proof, wind-proof and dust-proof. It is a giant "nose bag" contraption large enough to enclose the motor of a bomber. The inside is cozy and warm and platforms give room for several men to work on the engines of the planes in emergencies in the field.

Each panzer hangar weighs only 2,800 pounds, so that a modern American bomber plane can carry its own hangar.

As our war problems become more and more urgent, this contribution of Bibb workers becomes more and more vital in order that our aircraft may be kept in active service under the most difficult conditions.

"The Sun Never Sets On Bibb Textiles"

If you were to push a rod through a globe map of the world starting in at the middle of the map of Georgia, it would come out in the Indian Ocean on the opposite side of the world. At that spot it is midnight when it is noon in Georgia and it is the middle of the Summer there when it is dead of Winter in Georgia.

The nearest spot of land to the point where you would come out in the Indian Ocean would be Australia.

Right now that section of the world is the center of wanton aggression of the Japanese. The United Nations are rapidly building up materials first for defense and later for the victory drive. This means the piling up of vast stores of munitions, equipment and supplies of all kinds. Much of this material cannot be stored indoors for the reason that there is not enough room. Buildings would also be too easy to see and bomb. These tools of victory are covered with thousands of yards of waterproof duck to protect them from the drenching tropical downpours, from the sun and from the eyes of the enemy.

Many thousands of square yards of these duck coverings are woven in Osprey Mill. This is one more contribution being made by Bibb folks to the world-wide forces of liberty which are rapidly being mobilized against wanton aggression.

Under the cover of these ducks will likely be thousands of tires on trucks and gun caissons made with tire cord produced in Osprey and Columbus Mills, together with countless V belts for driving fans and generators in the same equipment. A large part of the fabric and cords in the V belts were made at Columbus and Porterdale.

Protection of these vast stores makes necessary the flights of scout planes, interceptor planes and of long range bombers to seek out and destroy the nests of enemy concentration which might threaten them. Enemy air fields and naval stations are cleverly camouflaged and can most effectively be attacked at night after being located by scout planes during the day. As the bomber planes of the United Nations soar twenty, even thirty thousand feet in the sky above these enemy concentrations in the pitch black night, suddenly the sky and the earth for miles around are illuminated with a brilliant light suspended from a falling parachute dropped by the bombers. This light, with a brilliance equal almost to the mid-day sun, lasts for several minutes, during which time the allied bombers can do their work. Then the lights fall to the earth and disappear, clothing our fighting airmen again in the safety of the cloak of darkness. The parachutes which support the lights have shrouds which are made with cord spun, twisted and braided in the Porterdale Mill.

There can be no end to a list of things which Bibb top-flight defense workers are producing, for every few days some new need arises which can be met by Bibb folks—some new problem is met and solved by the products of their skill and energy. The strength of a nation today is measured by its ability to produce. The power of Bibb folks to produce more and more good cotton textiles is a tremendous force for the victory which will surely be America's if we "Keep On Keeping On."

Yarn for the Wire in "Wireless"

When radio first came into use it was called "wireless." The British still call it "wireless."

This English language of ours is a peculiar thing. We speak of a fast horse when we mean that it can run, but we talk about fast dyes which cannot run. We call a place to swim a pool—yet no one can take a swim in a pool room. We call radio "wireless" when wire is the most important thing in the operation of radio.

But most of the wire in radio is useless without insulation. That is where Bibb folks are again proving their claim to the title of top-flight Victory workers. Many people think of war as tanks and guns and ships and planes, and so it is. But not a tank could operate, not a plane could fly, not a ship could sail the seas nor fire a gun without the use of wire insulated with yarns such as are being produced almost every day for defense in No. 2 Mill, Payne Mill, Welaunee Mill and Porterdale Mill.

The commander of a group of planes controls their movements in battle by means of radio. The planes also keep in touch with their ground stations by radio, telling the men at the big guns where to aim and when to fire.

Tanks are operated in battle by radio both to give directions and receive commands. In fact, the motors of planes and tanks could not even run without the insulated wire which helps to make and then to carry the spark to their cylinders.

The soldier in the field and the sailor on a ship could not operate in today's battles without being able to keep in touch with headquarters by telephone and by radio. All of these things depend on slender copper wires cov-

(*Continued on Page 36*)

Mildewproofing of Military Fabrics

THE treatment of sand bags, camouflage cloth and similar materials in order to render them free from attack by micro-organisms which cause mildew has assumed increased importance under the impetus of war. The demand for mildewproofed fabrics has increased so tremendously that many new problems relating to their production have arisen. The following report is an outline of the present status of the problem.

The Cause of Mildew

Mildew manifests itself chiefly as a discoloration of the fabric, a loss of tensile strength, or of both combined. Additional related effects, such as changes in dyeing properties, may also be evident. Mildew is caused by the growth of molds, of which there are many in nature capable of attacking fabrics. The sources of infection of cotton fabrics are the soil, air, and almost anything else with which the cotton comes in contact during its journey from the field to the mills where it is finished. The molds are disseminated by means of tiny spores, which under favorable conditions grow into more mold and thereby spread the mildew. The growth of the molds depends largely on temperature, moisture, and the available food supply. By controlling these factors their development can be hindered. Since the control of temperature and moisture is generally impractical, methods of mildew control center largely around the food supply. This is usually done by adding substances that inhibit mold growth to the materials used for sizing or finishing the fabric.

Compounds Used for Mildewproofing

The following requirements have been suggested for a satisfactory mildewproofing agent. The requirements may be expected to vary, depending on the type of fabric.

(1) The agent must be fairly soluble in water or other suitable solvents at the temperatures used for mixing.

(2) After being applied to the fabric, however, the agent must be only slightly soluble in water and must remain unchanged and not readily removable during weathering.

(3) The color of the fabric must not be altered unfavorably.

(4) The agent must be free of objectionable odors.

(5) Tendering of the yarn must not be produced either by direct action of the mildewproofing agent, or by its decomposition in the presence of heat or light.

(6) Dyeing and finishing properties of the yarn must not be affected.

(7) The agent must have no detrimental effects on the parts of the machinery with which it comes in contact.

(8) The agent must be safe for handling.

(9) The agent must not make the fabric more inflammable than before application.

(10) The feel of the fabric must not be altered.

(11) The agent must be cheap and easily obtainable.

The most widely used mildewproofing agent used at present in treating sand bags, duck, etc., is copper naphthenate. This compound has been found to fulfill all the essential requirements of a mildewproofing agent for burlap and cotton duck. Specifications call for 0.8 per cent copper in the treated fabric. Although a smaller amount of the metal would probably protect the fabric from attack, the higher percentage is considered necessary because of the leaching that takes place during use. Copper ammonium fluoride is also a good protective agent, and must be put on the cloth in a concentration of at least 0.8 per cent. In the order of their use, the cuprammonium process (Willesden process) ranks third as a treatment for mildewproofing. Specifications call for 1.5 per cent copper in cloth treated in this way. It is believed by some, however, that this concentration could be lowered without reducing the protection given the fabric.

Most mildewproofing agents now in use for military fabrics contain copper. Since the stock piles of scrap copper which have been used in the preparation of the protective agents are becoming low, substitute mildewproofing compounds will have to be sought. As substitutes, attention has been directed to surplus commodities such as rosin, turpentine, and pine tars, all products which are now available in large quantities. Similarly, other chemical compounds, such as pentachlorphenol, have been tried as mildewproofers. While some of these materials give promise, none of them, as used at present, is as satisfactory as the copper compounds already in use. The search for a cheap and easily obtainable new compound will undoubtedly continue.

Application of Agents

The mildewproofing agents are usually applied by running the cloth through a bath which contains the protective compounds in solution in either organic or inorganic solvents. Upon emerging from the bath, the cloth is passed between rollers to remove the excess solution. Some difficulties are encountered, especially with burlap treated in this way. The heavy threads and knots are squeezed harder as they pass through the rollers and hence retain a smaller amount of the mildewproofing agent than the rest of the cloth. These regions are, accordingly, more susceptible to attack by molds. Removal of the excess liquid by centrifuging is also sometimes used. Because of a shortage of jute, osnaburg is being used more extensively

(*Continued on Page 34*)

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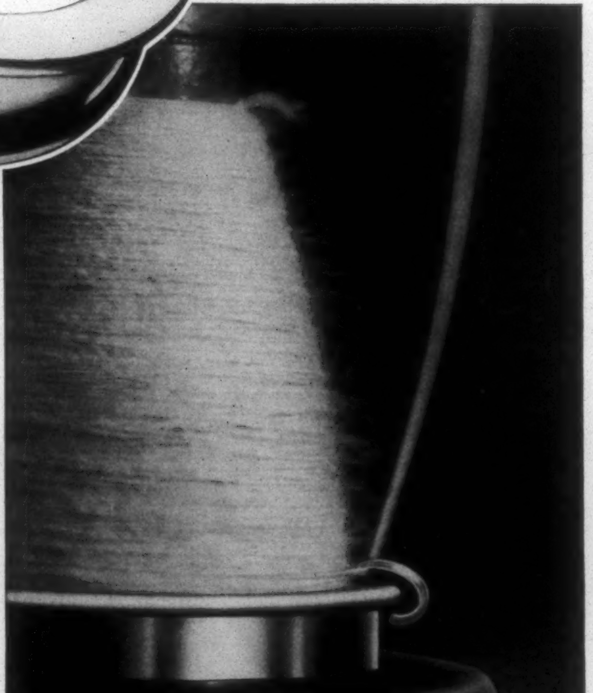
*Prepared by Charles W. Hock, Research Associate of the Textile Foundation at the National Bureau of Standards, and Milton Harris, Director of Research of Textile Research Institute and Textile Foundation, and released as a supplement to Textile Research.

PAWTUCKET RINGS Vitritex FINISH

. . . Assure Better Control of Yarn Quality



Many factors contribute to the spinning of good yarn . . . and the ring is one of them. When old and worn it affects the performance and life of the traveler—and thus indirectly affects the quality of the yarn by causing variations in the size and tension of the balloon.

The efficiency of a ring depends upon the permanence of its finish. The finish on a Pawtucket Ring is an exclusive development. It is glass-smooth, hard as granite, and highly resistant to wear. The texture of this finish is so fine grained that it is nearly non-porous. Thus it is almost impervious to the tarnishing effects of moisture in the highly humidified spinning room.

Pawtucket Rings are a definite contribution to good spinning, steady production and better traveler performance. We will gladly furnish samples on which you can make your own tests.

GIVE YOUR TRAVELERS
"A TURN FOR THE BETTER"

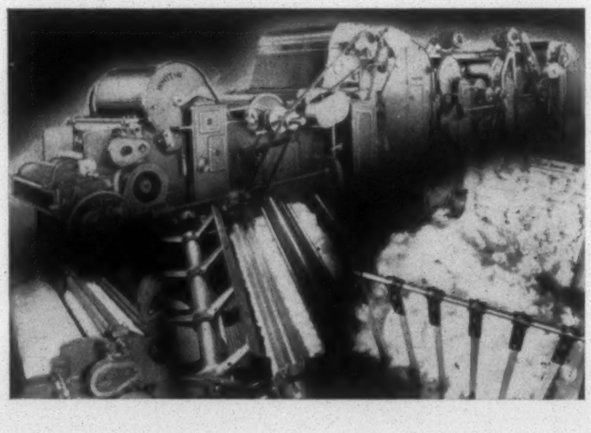
Pawtucket SPINNING RING COMPANY, CENTRAL FALLS, RHODE ISLAND
(Subsidiary of Saco-Lowell Shops)

Spun Rayon and Cotton Blends

By Pierre Sillan*

VISCOSE spun rayon is very often used in fabrics in combination with other fibers such as wool, acetate spun rayon, linen or cotton. This is done when special effects or combinations are desired which could not be obtained with the use of all viscose spun rayon alone. Many sportswear fabrics contain cotton, these being usually intended for men's or women's sportswear, and mostly sold as washable. In most cases the combination of the two fibers creates a fabric which can be sanforized and vat dyed, will have a richness of appearance, the characteristic of rayon, and will stand the usual washing abuses to which such fabrics are subjected by home or commercial laundries. Unfortunately, cotton being cheaper than rayon, there have been some cases where blends have been employed to cheapen an all spun rayon fabric. This should be strongly discouraged.

In combining cotton and rayon the qualities and characteristics of the two fibers must always be kept in mind. Cotton has a high wet strength and a firm touch. Rayon has a richness of appearance either dull or bright, softness or firmness, according to type of staple used. The two fibers can be dyed in the same shade or, if desired, two-tone effects can be obtained; they can be readily stabilized in combination constructions.



Viscose spun rayon and cotton can be combined in a fabric in four different ways.

I. *Twist*—Fabrics made of 2-ply yarns—one single end of cotton and one single end of viscose spun rayon are of course the most serviceable, and the best in appearance. Usually the cotton is of the same size or slightly finer than the rayon, and is used as the core—the rayon hides the cotton in such a way that the entire surface of the cloth is practically all rayon. The ply twist varies with the size of the yarns and is done on a regular cotton twister. Hopsackings, flakes and slubhopsackings also sold under the improper name of "crash linen" are made in such a way.

II. *Mock Twist*—Mills that do not have twisting equipment or desire to make a slightly cheaper fabric replace the two-ply yarns by a mock twist of spun viscose and cotton.

The mock twist is obtained by processing simultaneously a roving of cotton and a roving of spun rayon of the same or different count, according to the percentage of blend desired, for each spindle on a spinning frame. Generally a double trumpet controlling the separate feed of each roving is used. From there on the spinning operation is the same in every respect as for ordinary spinning.

While they unite, cotton and rayon still retain their individuality forming a spiral-like effect, primarily caused by the difference in color reflection of the two materials; in other words the blending of cotton and rayon is not thorough, and even in the finished yarn these two constituents remain largely separate. This method of combining viscose rayon and cotton produces much better results than a straight blending where the fibers are so thoroughly mixed that they lose their individuality and part of their respective qualities.

III. *Blends*—Depending upon the fabric effect desired various types of blending are employed. In general, the more nearly perfect the blend required the earlier in the process the blend must be made. The methods of blending are as follows:

1. Floor blending or preopening blending.
2. Picker lap blending.
3. Drawing blending.

1. The most common blending is accomplished prior to the picking operation. The floor blend or the preopening hopper blending methods produce the most perfect blends—stock dyed fibers are best blended in this manner.

In preopening or hopper blending, selected weights of staple blend are placed in the opener hopper and are blown into a storage bin for condition. After conditioning the staple is fed through to a hopper feeder and then to a picker. This method has more or less supplanted the old floor blending where successive layers of properly weighed proportions are "sandwiched" on the floor.

2. Blending on the picker is done by feeding laps of different stocks on the finisher picker. This type of blending is usually employed when it is desired to clean the raw cotton before blending with the rayon. It is, however, important that careful control of the lap weights be maintained.

(*Continued on Page 36*)

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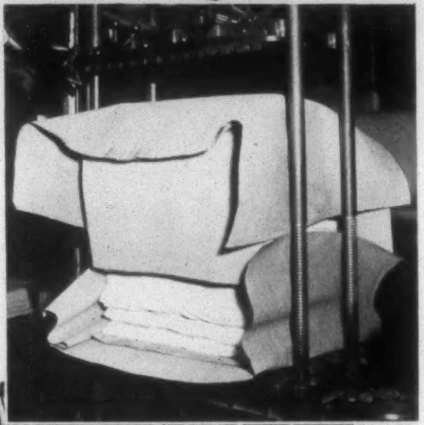
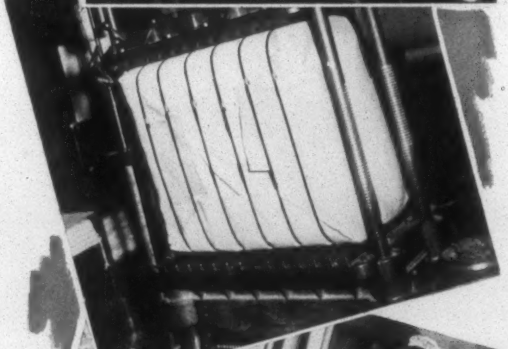
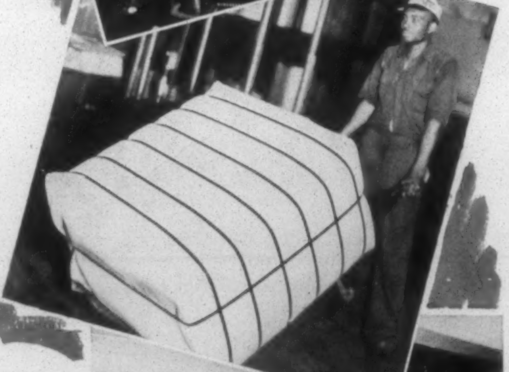
*Fabric Development Department, American Viscose Corp.

OUT OF THE EMERGENCY COME *Fulton* *waterproof* BALING PAPERS

to protect your shipments



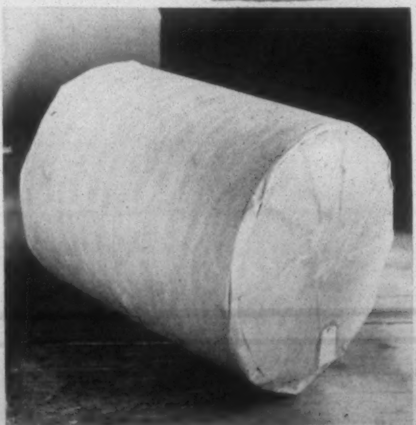




CRINKLE KRAFT paper, bonded with a special waterproof asphalt adhesive—an extra tough wrapping for any size bale. FLAT KRAFT, paper, bonded with a special waterproof asphalt adhesive insures an unbelievably strong, easy-to-handle wrapping for rolls of cotton goods of all kinds.

These flexible, moistureproof and dustproof coverings were especially developed by us for use in our own mills and factories when supplies of burlap were cut off and when the need for using all available supplies of cotton goods for war time requirements become apparent. Tested in actual use, these laminated special papers can be furnished you in a variety of widths and weights for any baling purpose. Prompt shipments from our stocks are now available. Last, but by no means least, the cost is exceptionally low. Write for prices—they will surprise you.

Samples furnished upon request



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Reminiscences of YE OLDE COTTON FACTORY

By
I. K. EDWARDS
Part Eight

THE ever restless, dissatisfied, ambitious urge to do things did not show any tendency toward slowing up. The idea of a new type of beater known as the "Kirschner" or spike beater came into use for the finisher lapper and was a decided improvement. It was built of hardwood "lags" in which were set high-tempered steel spikes about one inch long and one-eighth inch in diameter and tapered to a fine point. These lags were about five inches wide by one inch thick by 40 inches long, fastened on to the shaft as was the blade beater three lags an equal distance apart, perfectly balanced. The spikes were spaced about one-half inch apart in the lag firmly fastened and all spikes standing at the same level and set to one-eighth inch from the steel fluted delivery roll, instead of one-fourth inch as in the case of the blade beater.

The speed was reduced to around 800 R.P.M. and yet a very much higher efficiency was reached in both quality and volume of output, due in a large measure to the gentle "combing" effect on the stock by the spikes instead of the harsh blow striking by the sharp-edged blades.

The merits of the Kirschner beater rose more and more rapidly until the blade type has been discarded for the Kirschner in a number of cases. It was to be expected that a certain amount of the new ideas would show lack of merit under thorough testing, but disappointment does not justify discouragement and failure, but persistance and will power are splendid weapons for winning. And so today in many of the best mills can be found a most commendable example of opening and picker room development, from the primitive, even awkward and expensive methods of raw-stock preparation, up through the years step by step, experimenting, always improving in every phase of this highly important department.

In addition to the remarkable evolution of the beater has been many other improvements in the O. & P. (opening and picking) division of the plant.

Instead of being at the mercy of weather conditions resulting in irregular weight of laps from drying out after a rainy season, or absorbing excessive moisture after a number of successive dry days, almost every mill enjoys the benefit of humidifying equipment so plentiful throughout the country.

Very few, if any, examples of real achievement in any line of industrial activity have surpassed the standard of excellence to which the cotton carding machinery has been brought.

The old wood top flat type of card with its mechanical, slow moving flat strips, in which the flat was raised (one at a time) by an automatic device and held in position while the stripper got in its work.

These two devices working in conjunction kept the flats fairly clean when the cotton was of a proper grade though it sometimes happened that an uncomfortable amount of low grade stock would find its way into a bale at the gin and that always meant trouble in the form of loaded card flats.

Then, the flat grinding machine, of cast iron frame work which supported first, a shaft of steel tubing about 3 inches in diameter inside of which was a steel traversing worm to move the grinding wheel back and forth in the frame. The wheel was in the form of an ordinary pulley 16 or more inches in diameter and 4 or 5 inches wide, covered with grains of emery about ⅛ inch in size and held in place with glue; second, a series of brackets placed in the frame to work in conjunction with the grinding wheel and driven by a pitman to move the flats fastened in the brackets in an oscillating motion up and down with the wire teeth on the flats pressing lightly against the surface of emery covered wheel as it moved slowly from end to end of the flats while revolving at a rapid speed and thus performing the flat grinding task.

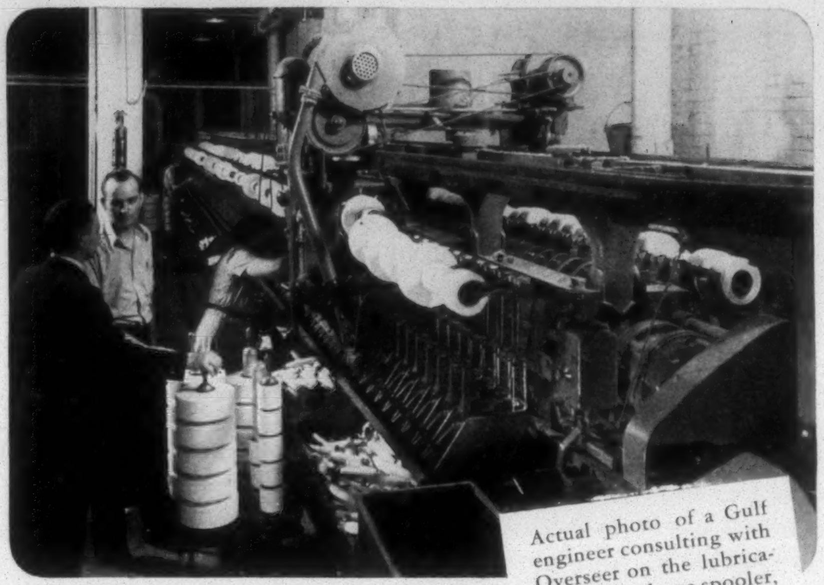
The cylinder grinding was somewhat similar to that of today. Even though the clothing was put on the cylinder in the form of strips of heavy fabrics about ⅛ inch thick by 5 or more inches wide by 40 or more inches long, with the steel wire teeth inserted through the fabric which was then fastened lengthwise across the cylinder (hardwood, about 36 or more inches in diameter by 40 inches long) by means of special heavy steel tracks.

The vast number of essential characteristics of the cotton card are so far reaching it is difficult to realize the importance of its proper care and attention.

The old card grinder was "thoroughly schooled," and was trained to set his grinding rollers as well as his card "working parts," feed roll, feed plate, lickerins, moat knives, flats, and all plates, etc., to a precision gauge in a manner that established a record, and in like manner he kept his grinding rolls covered regularly and always in perfect working condition, for his settings must always be correct even if extra grinding were required, because a setting of 7 to 12 one-thousandths of an inch must be correct.

The lickerin was about 6 or 7 inches in diameter, about 40 inches long, covered with steel flat wire about ⅜ inch wide with teeth in one side resembling the common handsaw and fastened on the lickerin with points projecting

(Continued on Page 37)



Actual photo of a Gulf engineer consulting with Overseer on the lubrication of this large spooler, one of the very few spoolers of its size in the country.

"A shutdown of this spooler would mean a closed mill — so we use Gulf Quality Lubricants"

SAYS OVERSEER

"GULF OILS AND GREASES KEEP THE KNOTTER HEAD AND OTHER VITAL PARTS IN PERFECT CONDITION"—

"OUR warpers are supplied by this one big spooler, so we can't take any chances on its lubrication," says this Overseer. "That is why we have standardized on the oils and greases recommended by a Gulf engineer. These quality lubricants keep the knotter head and other vital parts in perfect condition."

Here's the reason why so many mill men rely on Gulf quality oils and greases to protect their equipment against excessive wear, breakdowns and mechanical troubles: Gulf lubricants have *greater stability* and *endurance!* They stand up and provide a tough, long-lasting film of highest lubricating value even under severe operating conditions.

Let a Gulf engineer demonstrate to you—in your mill—how Gulf lubricants provide an extra margin of protection to your equipment—and help you secure uninterrupted production.

Gulf quality lubricants are quickly available to you through 1200 warehouses located in 30 states from Maine to New Mexico. Write or 'phone your nearest Gulf office today.

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OIL IS AMMUNITION — — USE IT WISELY!

Mill News

Aragon, Ga.—The Aragon Mills, division of A. D. Julliard & Co., are building 60 new dwelling houses for the workers.

Fort Mill, S. C.—A bus line to carry employees of the local plants of the Springs Cotton Mills to their work from points as far away as Monroe, N. C., has been put into operation.

Lincolnton, N. C.—Control of the Summit Yarn Mill, a cotton spinning mill of Lincolnton, has been purchased by Belding Heminway Co., which is said now to own a 75 per cent interest in the mill.

Greenville, S. C.—The Piedmont Plush Mills, of this city, recently completed the construction of a new warehouse, which represented a cost of approximately $10,000. It is one-story, and the plans were prepared by J. E. Sirrine & Co., textile and industrial engineers of this city.

Memphis, Tenn.—The Downcraft Textile Co. was damaged by fire of undetermined origin recently. The blaze, confined to the one floor, was extinguished in about 20 minutes. Firemen said the damage was not great.

The fire started near a ventilating fan and spread to bales of lint cotton used by the company in making blankets for the Army.

Gastonia, N. C.—A new unit has been opened here by Sunspun Chenilles, Inc., in addition to the plant at Asheboro, N. C. The new unit is in charge of Jack Wrinkle, formerly in the Asheboro plant, and before that with the Boysell Co. About 50 workers are employed at present; plans are to expand operations until about 100 are employed.

Gaffney, S. C.—A contract for the construction of a two-story brick building, 25 by 80 feet, with an eight-foot basement, has been awarded the W. T. Duncan Contracting Co. here by George L. Stephenson, owner of the Dixie Glove Co., it has been learned.

The new building will be the home of the glove company which was badly damaged in the Granard street fire of June 2nd when four buildings were destroyed and five business establishments virtually ruined.

Franklinton, N. C.—Burlington Mills Corp., reported to be the largest manufacturer of rayon goods in the world, has acquired another plant, the Vamoco Mills Co., of Franklinton.

Vamoco Mills Co. formerly operated on the manufacture of towels with 200 looms, contains 40,000 square feet of floor space, and is of modern brick, steel, and glass construction. Production of the mill under the new management will be rayon goods similar to the production of its other plants, it is reported.

Whitney, S. C.—Officials of the Whitney Mills, Inc., have announced plans for opening a finishing plant as a subsidiary unit. The unit is now being installed in the cotton warehouse by the Springdale Finishing Co., which also operates a plant at Canton, Mass.

It is reported that plans are under way to convert the entire plant of the Whitney Mills to finishing operations, doing away with the manufacture of cotton cloth. This would be done after the war, according to newspaper reports.

Elkin, N. C.—The Chatham Mfg. Co., of this place, which is operating exclusively on Army and Navy contracts for blankets and uniform cloth, in three wool pools held at Elizabeth City, N. C., Plymouth, N. C., and Tarboro, N. C., purchased more than 20,000 pounds of wool. The prices ranged from 43c to 55c per pound.

Clear wool, free of burrs, brought 53c a pound, but the Chatham Mfg. Co.'s buyers paid L. L. Draugh, of Whitakers, N. C., 2c a pound more for an unusually good lot. Light, burry wool sold for 48c a pound, and heavy burry wool brought 43c a pound.

Honea Path, S. C.—Swirling violently out of the southeast, a tornado dipped dangerously over the Town of Honea Path July 22nd in the wake of an electrical rainstorm, ripped part of the roof from the Chiquola Mfg. Co. and caused other less severe damage, the total estimated in excess of $25,000.

Fire broke out in the spinning department on the fourth floor of the Chiquola plant after the twister struck a section of the roof, damaging about 40 spinning frames before the fire could be extinguished.

Work was halted temporarily in the mill to allow temporary repairs to the roof and to the spinning department which bore the brunt of the wind.

SUPERINTENDENT WANTED

Large mill on colored work, located in South Central State, has opening for superintendent. Good pay, pleasant surroundings. Give full particulars regarding experience, qualifications and references in first letter.

Address "S. C.," c/o Textile Bulletin.

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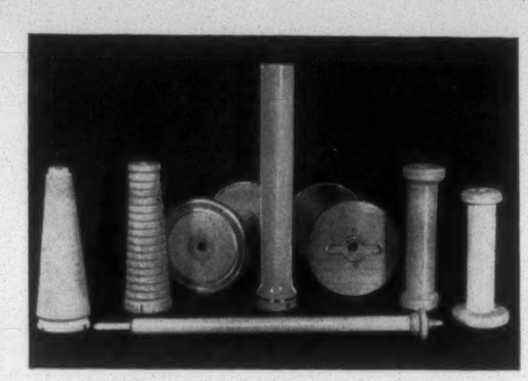

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Since 1866 our policy of Fair Service to All has been the bulwark of our business. It has withstood the test of two major wars and several depressions. Today our customers have confidence in our ability to protect their interests . . especially through the present emergency. They have confidence in the high quality of our textile starches . . corn, potato, wheat . . which reflect the craftsman's art in skillfully converting the best materials the world affords. This customer confidence is one of our most valuable assets. We shall do all in our power to preserve and strengthen it.

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The Keever Starch Company, Columbus, Ohio

Personal News

Will Beard has been made night overseer of carding at Mississippi Cottons, Inc., Meridian, Miss.

Wiley Hunnicutt is superintendent of the Acworth (Ga.) Mills.

A. L. Fisher, overseer of carding at Consolidated Textile Co., Inc., Lynchburg, Va., has retired.

J. B. Doar, Jr., is secretary and treasurer of Exposition Cotton Mills, Atlanta, Ga.

J. E. Ledbetter is superintendent of Villa Rica Mills, Inc., Villa Rica, Ga.

S. P. Jenkins is now superintendent of the yarn mill of Jordan Mills, Inc., Columbus, Ga.

W. B. McGinnis is now superintendent of the Winfield, Ala., plant of Alabama Mills, Inc.

R. E. Hightower is now vice-president of Thomaston Cotton Mills, Thomaston, Ga.

Hearne Swink, of Kannapolis, N. C., is now secretary and treasurer of Wiscassett Mills Co., Albemarle, N. C.

J. N. Howell is now superintendent of the Southern Mills Corp., Anniston, Ala.

T. B. Argo has been promoted to a position in the paymaster's office at Abbeville (S. C.) Mills.

W. P. Johnson has resigned as manager of the Thrift Mill of The Kendall Co., Paw Creek, N. C., to become an executive with Inman Mills, Inman, S. C.

C. D. Sheppard has been transferred from Mississippi Cottons, Inc., Meridian, Miss., to the J. W. Sanders Cotton Mill, Starkville, Miss.

Jack Fletcher, formerly with Cannon Mills at China Grove, N. C., is now overseer of spinning at the Gem Yarn Mill, Cornelius, N. C.

O. M. Templeton, formerly of Joanna Textile Mills Co., Goldville, S. C., is now overseer of carding at Consolidated Textile Co., Inc., Lynchburg, Va.

Gerald L. Chapman, superintendent of the Barbara Mills, Inc., Salisbury, N. C., has been ordered to active duty with the U. S. Army, and has reported for duty.

S. Reed Anthony, of the Charlotte, N. C., office of American Viscose Corp., has received a commission as Lieutenant, J. G., United States Navy.

Robert L. Cole, president and treasurer of the Hannah Pickett Mills, Rockingham, N. C., has received notice of his appointment as a first lieutenant in the U. S. Army.

J. E. Farrow, Auburn Textile School graduate, is acting superintendent of the bleachery at Russell Mfg. Co., Alexander City, Ala.

Lee Crowder has been promoted from second hand to overseer of carding at the Spindale plant, Spindale Mills, Inc.

N. Barnard Murphy is now president and general manager of The Trion Co., Trion, Ga., replacing J. L. Riegel, who is now chairman of the board.

John C. Wilmerding, formerly with the acetate rayon sales division of the American Viscose Corp., has been promoted from Ensign to Lieutenant, Junior Grade, U. S. Navy.

G. H. Mahaffee has been promoted from overseer of carding of the Spindale plant, Spindale Mills, Inc., to superintendent of carding and spinning of the Cleghorn Mill and superintendent of carding of the Spindale plant.

R. Maurice Frew, formerly industrial relations manager at the Winnsboro, S. C., textile mill of the U. S. Rubber Co., is now in charge of the employment office of the new shell loading plant which will be operated by the U. S. Rubber Co., near Charlotte, N. C.

William Pitts has resigned from Pepperell Mfg. Co., Opelika, Ala., to take charge of night spinning at the Central and Catherine plants of Avondale Mills, Sylacauga, Ala.

Fritz Zweifel, H & B's representative at Spartanburg, S. C., was one of the speakers at the South Carolina Statewide school for administratitve officers of the Citizens' Defense Corps.

M. M. Trotter has become vice-president and director of purchases at Callaway Mills, LaGrange, Ga., succeeding A. B. Edge, Jr., who has been made vice-president and secretary.

Correction

In our July 15th issue we published a personal item to the effect that D. Singleton Cook had resigned from Pepperell Mfg. Co., Biddeford, Me., to become vice-president and general manager of Ware Shoals (S. C.) Mfg. Co. Mr. Cook informs us that the item is incorrect, and we are glad to publish the correction.

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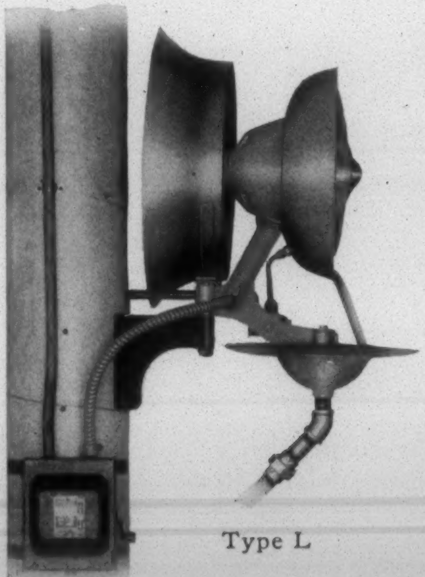

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A Modern Humidifying System for a Modern Plant!

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POSITIVE CIRCULATION LOWER OPERATING COST
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After 175 Years

85% of the World's Cotton Spinning is still done on

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named after the originator of the special treatment and processing.
Such details as the speed of the cutting knife, the amount of stretch taken out of a hide, the condition under which the grain of the skin is rolled smooth and how placed, all enter into the picture.
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Greenville, S. C.	W. J. Moore
Greenville, S. C.	Ralph Gossett
Griffin, Ga.	B. C. Plowden
Utica, N. Y.	Campbell & Jefferson Co.

Johnston McCorkle is superintendent of Harmony Grove Mills, Commerce, Ga.

C. L. O'Neale, Jr., formerly of Spartanburg, S. C., is now cotton man at the Clinchfield Mfg. Co., Marion, N. C., succeeding W. W. Greene, now in military service.

William L. Clayton Nominated Assistant Commerce Secretary

Washington, D. C.—William L. Clayton, of Houston, Tex., head of the firm of Anderson, Clayton & Co., cotton factors, and one of the world's greatest authorities on cotton, was nominated by President Roosevelt to be assistant Secretary of Commerce in charge of civilian aeronautics, in place of Robert H. Hinckley, who recently resigned.

Mr. Clayton has had a long career in the marketing of cotton. At the age of 16, he went to New York and secured a position as a stenographer for the American Cotton Co., becoming first assistant treasurer and the treasurer of that firm. In 1904, he became general manager of the organization. He then left New York and became one of the organizers of the Anderson, Clyaton Co., eventually becoming head of that firm.

In the first World War, Mr. Clayton was a member of the cotton department of the War Industries board.

Frank G. Clark, of Cheyenne, Wyo., was also nominated to be collector of internal revenue for Wyoming.

Warwick Chemical Co. Moves Its New York Offices To Larger Quarters

Members of the Warwick Chemical Co. recently celebrated their moving to new and larger offices at 580 Fifth Avenue, New York City. At the party, Ernest Nathan, president, expressed his gratitude to the members of the organization for their co-operation in making the rising success of the company possible. The phone number and address remains the same.

Spindale Group Joins National Association Of Foremen

At a special meeting of the Spindale Mills Foreman's Club, held Saturday, July 18th, at the Forest City Club House, H. J. Post, superintendent of the Clark Equipment Co., Buchanan, Mich., presented the club a charter for membership in the National Association of Foremen.

The Spindale Mills Foreman's Club is the first in the State of North Carolina to affiliate with the National Association. The club plans to send two delegates to the National Convention to be held in Chicago in September.

Spindle Activity for June Slightly Lower Than May

Washington, D. C.—The Census Bureau has reported that the cotton spinning industry operated during June at 133.2 per cent of capacity, on a two-shift, 80-hour week basis, compared with 138.4 per cent during May this year, and 121.5 per cent during June last year.

Spinning spindles in place June 30th totaled 24,019,598, of which 23,090,560 were active at some time during the month, compared with 24,061,836 and 23,120,666 for May this year, and 24,326,162 and 22,991,546 for June last year.

Active spindle hours for June totaled 11,264,419,347, or 469 hours per spindle in place, compared with 11,192,738,078 and 465 for May this year, and 8,831,548,864 and 408 for June last year.

Active spindle hours for June and the average per spindle in place by States follow:

Alabama, 958,860,966 and 523; Connecticut, 155,031,783 and 297; Georgia, 1,569,815,676 and 501; Maine, 238,980,857 and 370; Massachusetts, 1,054,954,122 and 354; Mississippi, 736,658,880 and 533; New Hampshire, 138,664,821 and 472; New York, 113,751,889 and 355; North Carolina, 2,823,173,848 and 486; Rhode Island, 327,067,680 and 358; South Carolina, 2,835,614,325 and 523; Tennessee, 334,595,607 and 615; Texas, 113,194,770 and 470; Virginia, 303,860,942 and 478; all other States, 221,473,181 and 382.

Tennessee Prison To Set Up Looms To Make Osnaburgs for WPB

Knoxville, Tenn.—Convict labor is going into the business of making cloth, and looms are being set up in the main State penitentiary at Nashville, according to reports.

Arrangements have been completed with the Prison Industries Division of the War Production Board for the manufacture of 100,000 yards of osnaburg cloth at 16 cents a yard.

"We hope to start production in a few weeks," said Warden Gore. "The prison textile plant will be in operation 24 hours a day.

"We are also negotiating with WPB for the manufacture of shoes, soap, trousers, woolen blankets and steel helmets for the Government."

Continue Manufacture of Repair Parts for Textiles

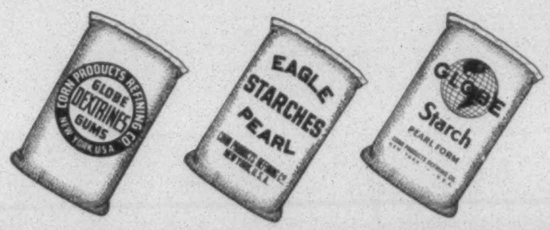
Repair parts for textile machinery will continue to be manufactured, and textile mills will be able to obtain such parts by following the same procedure they have in the past, it was pointed out July 23rd by R. S. Dempsey, Chief of the Textile Machinery Branch of the War Production Board.

Mr. Dempsey made this explanation because of inquiries received from textile manufacturers as to the effect of the Production Requirements Plan on the production of repair parts for textile machinery and their ability to obtain such parts.

"The Production Requirements Plan will not affect the textile mills," Mr. Dempsey said. "Textile machinery plants come under the plan because they need metal to produce machinery and parts. Most textile mills are not required to come under the plan, and they will continue to be able to obtain repair parts under the same procedure they have followed in the past."

Lots of people sat here . . . .

MANY textile manufacturers were "on the fence". BUT many of them came right off when they discovered the uniformity, cleanliness, consistent high quality of Corn Products Sales Company starches and gums. Many successful textile manufacturers use the services of Corn Products technicians who are always glad to help the manufacturer with WARP SIZING, FINISHING or other textile problems.



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TEXTILE BULLETIN

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Should Not Destroy Confidence

The people of the United States should be, and we believe that they are, willing to make any sacrifice which is necessary to win this war.

They are willing to do with less sugar or without any sugar at all. They are willing to curtail their riding or, if necessary, to store their cars for the duration.

These things, and many others, they are willing to do if necessary, but wish to know and have a right to know that they are necessary.

"All is not gold that glitters" nor are all orders which come out of Washington the result of careful consideration of the aid which they will give to the war effort. As the result, more and more people seem to be losing confidence in the present government.

There are men holding high Government positions in Washington who have indicated that they are willing to place the interests of themselves and their friends ahead of those of the people and ahead of the war effort.

Some of the statements issued from Washington are at variance with information which comes from private sources and which appears to be reliable.

On July 15th, 1942, Jesse Jones, Secretary of Commerce and head of the RFC, issued a statement saying that since the summer of 1940 the Rubber Reserves Corp. has been buying all the rubber that was available from any source.

Drew Pearson, of the Washington "Merry-Go-Round," is authority for the statement that when, prior to Pearl Harbor, the Army asked the RFC for the funds necessary to accumulate a large stockpile of rubber it was refused by Jesse Jones upon the ground that, in his opinion, the Japs could not take Malaya and the other rubber bearing areas of the Far East.

If that story is true, the Army is not to blame for the very small stockpile of rubber which exists today.

It was to be supposed that the Rubber Reserves Corp., realizing the necessity for more rubber, either natural or synthetic, would do everything possible to assist in the production of synthetic rubber, but it is now almost eight months since Pearl Harbor and practically no progress has been made.

A 35-year-old Chicago bank clerk who had never had any experience with rubber or in industry, was placed at the head of the Rubber Reserves Corp. We do not know whence came the political influence which secured the job for him, but he came from the RFC.

We do know that he assumed the attitude of a Hitler and became arbitrary in his rulings.

A more experienced, or a more intelligent, man would have soon learned that both Germany and Russia were making excellent rubber out of alcohol, made from wheat, but he turned aside, with discourtesy and contempt, all efforts of the Publica Corp. of Philadelphia and a Nebraska group, to obtain comparatively small amounts of construction materials for the buildings they needed for the production of synthetic rubber.

He dealt out with a lavish hand, both Government funds and priorities for materials to petroleum interests which were to erect synthetic rubber plants in the section of the country from which Jesse Jones came.

He openly favored the process which would require the greatest amount of time, the greatest amount of steel, the greatest amount of Government funds, the greatest amount of vital materials from which to manufacture rubber and whose estimated cost of manufacturing rubber exceeded all others.

The July 15th statement of Jesse Jones says that the Rubber Reserves Corp. could not afford to be shifting from one process to another but that is a very lame excuse.

The Nebraska interests which were prepared to make rubber from wheat, asked for 150 tons of steel, which was very little compared to that given to others.

Had they been allowed to manufacture synthetic rubber, it would not have interfered in any way with the progress being made by the process favored by the officials of the Rubber Reserves Corp., but it would have furnished competition with a rubber made quicker and at much less cost.

The radio commentator, Fulton Lewis, Jr., rendered a real service when he uncovered what has all the earmarks of an effort to deliver a monopoly in the manufacture of synthetic rubber. All of his charges have been sustained as the result of an investigation made by a Congressional committee.

There could have been and should have been a reasonably large supply of synthetic rubber early in 1943 and those who find themselves without tires should place the blame squarely upon the Rubber Reserves Corp., who were charged with securing synthetic rubber but actually delayed its manufacture.

The 35-year-old bank clerk who, as head of the Rubber Reserves Corp., assumed dictatorial power, could even now do one decent thing and that is resign.

Trying to Grab Patents

Selfish interests, aided by a group who do not believe in rewards for individual efforts, are trying to destroy the protection of our patent laws.

Under the guise of war duress, a new concept of patents, both revolutionary and destructive, is being urged upon the country.

Certain newspapers have been broadcasting to the public a sinister picture of American business co-operating with Hitler and selling-out our Government.

They have headlined certain contracts and arrangement between American business interests and the German Government but neglect to state that at the time the deals were concluded, few people in the United States had any reason to expect war with Germany.

The Aluminum Corp.'s magnesium patent deal with IG-Farben was in 1928. General Electric's carboloy deal with Krupp was in 1928, and Jersey's synthetic rubber deal with Farben was in 1929. Hitler became Chancellor in 1933.

Hitler was in jail and no one expected his rise to power or his placing Germany in a war when most of the deals were made.

The right of our Government to use the patents of its citizens for military defense in time of war will not be denied but we do deny the right of private citizens to make profit from the brain children of other citizens.

Two of the bills now before Congress would definitely discourage research and invention.

Senate Bill (S. 2303), now pending, permits the Government in war time to seize any patent upon mere notice, the owner's only recourse being by a suit in the Court of Claims. No provision is made for the return of the patent to the owner when the war is over or for limiting the term of any licenses which may be granted, and after seizure the owner may not even operate under his own patent. This bill also permits the Government to grant licenses as it may choose and says that the President shall prescribe a reasonable royalty but makes no provision for its payment either by the Government or the licensee. While the bill allows the patentee to have recourse to the courts, it prohibits the courts from awarding more than the amount prescribed by the President. This means not only that a man's patent can be taken away by executive order, but that the inventor's remuneration will be fixed by some underling in a Washington department and that the courts cannot disturb his decision.

Senate Bill (S. 2491) would force the inventor or his assignee to crowd the commercial exploitatiton of invention into three years under penalty of having to license someone who may become his competitor. As an illustration, the Klixon thermostat whose development required several years of patient persistent work and a hundred thousand dollars of invested capital would not have given its inventor, a mechanic working at the bench, any substantial return, if, at the end of three years the electrical equipment companies had been able to force a compulsory license from him.

Our patent laws have done much to improve our way of life because inventors have been encouraged by their protection.

The war should not be an excuse for their destruction.

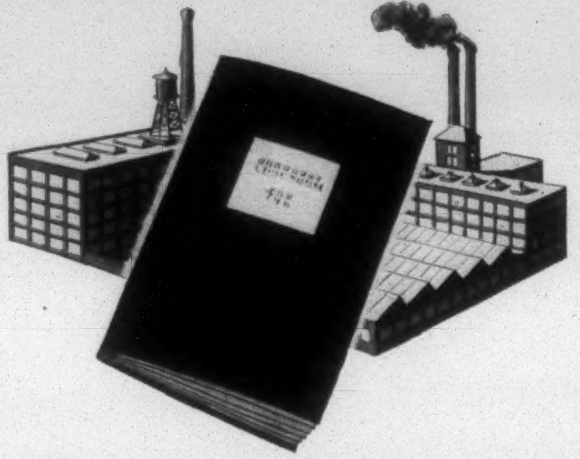
U. S. Production of Cotton Woven Goods

The production of cotton goods, over 12 inches in width, measured in square yards has been:

Year	Square Yards
1914	6,813,540,000
1919	6,317,397,000
1921	6,703,835,000
1923	8,264,219,000
1925	7,741,568,000
1927	8,980,414,000
1929	8,541,545,000
1931	7,141,903,000
1932	6,227,222,000
1933	7,866,040,000
1934	6,878,579,000
1935	7,135,276,000
1936	8,613,837,000
1937	9,445,913,000
1938	7,502,168,000
1939	9,044,979,000
1940	9,593,557,000
1941	11,898,362,000
1942 (Goal)	14,000,000,000
1943 (Goal)	15,000,000,000

The statistics show that from a production of less than 7,000,000,000 square yards per year during World War No. 1 we are now asked to produce 15,000,000,000 square yards next year.

Put Your Mill on a "FIGHTING BASIS"!



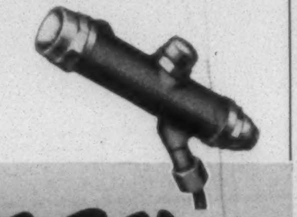
Let Amco Engineers make a survey and report how to do it!

There's nothing like *correct humidification* to help you get maximum, top-grade production from every machine! For either war or peacetime orders, it puts you on a "fighting basis" . . . eliminates static, dust and fly . . . makes fibres more workable . . . reduces breakage and imperfect goods.

Why not investigate this important production aid? Without obligation, Amco engineers will determine your exact requirements and submit a complete report including detailed plans for an automatic, production-boosting Amco Humidification System.

Get the Jump on Competition

Even if lack of priority prevents immediate installations, now's the time to "get the jump" on future post-war competition. Place your advance order for Amco Equipment . . . and you'll get *preferred delivery* when peace comes! American Moistening Company, Providence, Rhode Island . . . Atlanta . . . Boston . . . Charlotte.



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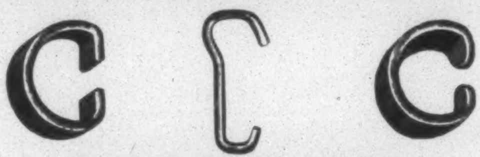

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MASTER MECHANICS' SECTION

Practical Hints for Belt Users

By R. B. Heller
Akron Belting Company

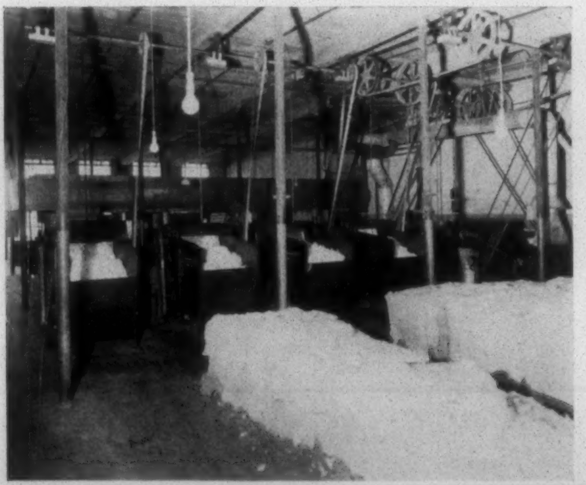
A LONG TIME ago a wise man said, "We do not always have to be *told* things, but we do have to be *reminded* of them." There is probably not much in this article but what most mill men know, but when one is busy, and everything goes wrong all at one time, it is so easy to follow the line of least resistance; do things the "quickest" way. That, as you have found out by hard experience, is not always the best way to do them.

So we are in good company when we "remind" you of something you already know, for we seem to remember that the preachers have been preaching about the Ten Commandments for about 2,000 years., and who among us will be so brash as to say that we don't need to hear any more about *them?*

Leather belting is a highly important item about a mill, and while we wouldn't go quite so far as to say that it gets less attention than anything else, still in many a plant it could receive better treatment than it does. In view of all this, it seems that a real service can be rendered mill men by putting before them the hard-won experiences of 57 years of contact with their needs, and to help them in getting more for the money they must spend. This is done in a series of paragraphs about the DO'S and DON'TS of belting practice.

Specifications and Selections

Make specifications for belting on any drive as complete as you would in ordering the machine. The belt is the "artery" through which the power flows to the production units. The purchase of power belting is just as much an engineering problem as correct machine design, why treat it as a mere merchandising transaction? Price equals cost per H.P. per year.



Have belts of the right size and thickness to transmit the power load, and adapted to the pulley diameters, centers and speed.

Send complete data on the drive with orders for important belts. Results can be guaranteed if you do this, as there is a grade and thickness for any power drive service.

Remember, your belt is the connecting link between power and production on which your profits depend, so allow ample time for proper installation and preparation for full duty.

Installation

Endless belts are most economical. Find a way to have belts installed endless, and shortened after working hours. It will pay to have a belt man make it his job to keep the production units operating full time.

It is dangerous to close the ends of belts and then run them on over the edges of the pulleys. If tight enough you are likely to crook a section, and if loose enough to avoid damage the belt does not pull all the load expected, and must be shortened very soon. Result—complaints of "stretchy" belts.

Don't cut a new belt to length using the old belt for a sample. Where no standard figures for lengths are available take a steel tape measurement over the pulleys, never add to that length to be sure of enough. Rather *reduce* it ⅛ inch per foot or 3 inches out of 24 feet, and you will get better performance without excess stretch.

Don't risk ruining a good belt by forcing it on over the edges of the pulleys. Put it over the faces of both pulleys and draw it together tight and straight with belt clamps or stretchers. You will avoid more troubles than one. Belt clamps are available for small or large belts.

Run the *grain* or *smooth* side of belts to the pulleys, and have lap points on outside *follow* the direction of the belt, rather than to lead.

Don't complain about stretch in a belt that was ordered too long. Use a tape line for measuring, a string is too uncertain.

Every so often there is a cry for a "no-stretch" belt. In reality that is the worst thing you could use. It is the very elasticity of leather that gives it its adhesion to the pulley face and takes up the "jerks" in starting, stopping, and load fluctuations. A piece of leather having completely lost its stretch is a dead piece of leather. So-called "stretch" in leather belts is not really stretch at all. After the separate pieces of leather are taken from the stretchers before being made into belting, they naturally contract slightly, and it is this contraction in the whole belt that must be taken out after it is put into use. You must even take a link out of a steel sprocket chain once in a while.

Don't expect a straight belt to run on mis-aligned pulleys. Straighten up the line of travel and the belt will do its part.

Don't make installations requiring belts to run counterclockwise, tight side on top, if you can possibly avoid it. If perpendicular belts are necessary provide good sized pulleys.

Don't use single belting where double will operate more economically. Doubles properly selected are made to accommodate both large and small pulleys.

Don't make endless laps on belts too short or "bunty." One and one-half the width of belts under 12 inches wide is a good rule, with a minimum of 4 inches for singles and 10 inches for narrowest doubles.

Care of Belts

Give any belt time to become fitted to the pulleys before throwing on the full load. A little time "running the min" will pay dividends.

Don't keep a belt on the pulleys with a 2x4 used as a brace. Either relace belt straight or line up the machine or pulleys.

Don't allow belts to rub on shifter forks or guards. Line up machines or pulleys properly and relocate guards.

Don't allow belts to run with two or three broken laces or hooks. Relace before additional hooks break and tear the belt to pieces.

Use belt dressing on dry, hard glazed surface belts.

Keep belts no tighter than necessary to minimize slippage. "Easy" belts last longer and reduce friction load and pressure on bearings. Proper tension must be determined by operating conditions.

Don't use rosin. It shortens the life of belting. Use only an approved belt dressing.

Don't cut belts without using a steel square. A belt not cut square will run unevenly on the pulleys, and is too often claimed to be crooked.

Don't let water, oil or grease fall on belts, as this causes warp and slip with consequent loss of power.

Don't let accumulations of dust or dirt form on belts and pulleys, and *don't* clean such accumulation from belts while they are running.

Don't put an extra twist to take up slack in a belt that is too long. Shorten belt properly and relace.

Don't run belts in the wrong direction over pulleys. This causes laps to open.

Don't allow lacing or hooks to ride above the surface of the belt, but imbed them deeply when making the joint. Metal fasteners above the surface of any belt will strike the pulley and soon ruin both pulley and belt fastener.

Don't cross a leather or wire lace on the pulley side of the belt. The lacings should be parallel on the pulley side, leaving the crossed lacing on the side away from the pulley.

Repair loose lap joints and corners by cementing. Don't rivet or tack them down, you haven't accomplished anything. Fix a belt *now* just as you would oil a dry bearing on the machine.

Up to a certain point a leather belt gets better with use, developing a better pulley grip as it becomes broken in and set to the pulleys. Frequently an old belt will outpull a new one.

It pays to use good tools for making splices, and good cement properly mixed and applied in closing a lap splice for an endless belt.

If a crook develops in a single ply belt, it can often be eliminated by cutting the belt at that point and making a cemented splice. The kink may be caused by the strip having been cut over the hip bone of the animal when in poor flesh, and is not apparent until the belt is put under strain.

Don't run a belt with metallic or other type fasteners when you have a mechanic or belt man who can splice it endless. Like a chain, it is no stronger than its weakest link and a joint is a link; so make it continuous in strength by cementing it endless.

Don't expect belt dressings to clean grease out of leather belts. One grease may counteract another, but it will not eradicate it from leather. Nor will belt dressing carry the load if the belt needs shortening.

Now, after you have read (I hope) these paragraphs about what to do and not do, don't "pop off" and say that all this is too much trouble. It surely would be if you had to do it all at one time. Every paragraph deals with some one point that has arisen at one time or another in our experience, and many of them you may never encounter.

As the insurance man will tell you, however, "It is better to have it always and not need it, than to need it once and not have it." That is why we have put it all together in one piece so you can keep it if you would like to.—Reprinted from *American Miller*.

Tesco Chemical Absorbs Sudite Chemical Co.

The Tesco Chemical Co., Atlanta, Ga., manufacturers of chemicals, soaps and alkalies, has absorbed the Sudite Chemical Co. of Atlanta, producers of cold water soaps and cleaning compounds.

For the time being, they will continue operations at the Sudite plant, but following completion of a new extension, the equipment and machinery will be transferred to the Tesco plant, with all operations at one place.

Chapman Neutralizer Sells Direct

The Chapman Electric Neutralizer Co., Portland, Me., has announced a change in the sales and installations policy of its neutralizers. The Kidder Press, Dover, N. H., and its predecessors, former agents for Chapman, have retired from the agency business, and the manufacturers are now serving the trade directly from their home offices at Portland. They are maintaining installation service, employing the Chapman neutralizer installation engineers from Kidder Press Co. Merle S. Pennell, sales engineer, who helped the company serve industry so ably in previous years, has reassumed his responsibilities again directly with the company. Officers of the company are: William H. Chapman, consultant-director; Richard C. Payson, president; Widgery Thomas, treasurer, and George H. Chapman, general manager.

EXPERT COUNSEL

To keep abreast of the overnight changes in methods, processes and equipment to meet present day needs, it is imperative to continually consult and work very closely with "specialists" in their respective lines.

We employ the year round, a large staff of specialized engineers to do nothing else but "invent, test out and perfect" new items in

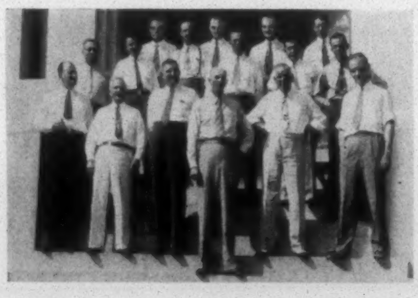
Steel Heddle Mfg. Co.'s Loom Harness Equipment

It would require constant study to keep abreast of their creations.

But a few moments spent with our local Field Engineer each time you contemplate changing over your weave construction, would be profitably spent.

They are anxious to help you at any time free of obligatiton.

In order to facilitate proper handling, kindly supply with each order, necessary priority rating.



Front Row, reading left to right—H. Raiford Gaffney, John J. Kaufmann, President and General Manager; Barney R. Cole, Claude W. Cain, Robert J. Freitag, Secretary and Treasurer; John J. Kaufmann, Jr., Assistant Vice-President. Back Row, reading left to right—Louis P. Batson, Vernon A. Graff, Stephen R. Moore, Jess Long, Horace D. Hammond, Davis L. Batson, G. Harry Hill, Ray A. Norman, Henry P. Goodwin, Sam Zimmerman, Jr.

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FIELD ENGINEERS
IN
EVERY DISTRICT

Howard D. Colman An Inventor From Early Youth

Howard D. Colman, founder and president of the Barber-Colman Co., of Rockford, Ill., was instantly killed in an automobile crash Thursday, June 25th. He was driving alone from Rockford to Chicago when the accident happened.

Mr. Colman, son of a Methodist minister, was born at Waukesha, Wis., July 9, 1873. He received his education in the schools of the various cities and towns in Wisconsin in which his father was located.

The Colmans lived neighbor to the superintendent of a small mill at one time, and it was through him the boy of about 16 or 17 made his first contact with the textile industry. This superintendent pointed out to the boy the need of a machine for drawing the warp threads into the eyes of the loom harness. The boy immediately started to work on the idea, and built of wood a small model to illustrate the principles he had in mind. It was not until some time later, however, that he succeeded in interesting W. A. Barber, a lumberman, and he was enabled to carry his investigations further. Mr. Barber loaned him $100 and in 1891 the lad, now 18 years old, proceeded to make a better model of iron and steel. The results were satisfactory, as far as they went, but he still lacked the finances and shop facilities to carry on the invention.

In November, 1891, his father moved to Beloit, Wis., and he attended Beloit College that winter, continuing to work on the warp drawing machine as much time as could be spared from his studies.

In the summer of 1892 he tried out this model in a small cotton mill. The results were sufficiently encouraging to warrant the building of a more complete machine and early in 1893 he came to Rockford, Ill., where Spengler Bros. operated a job shop capable of doing the class of work he had found necessary. In 1894 the third machine was completed and again tried out in Janesville.

With further assistance from Mr. Barber he had the means to biuld still another model drawing-in machine, which he took to the Boott Mills in Lowell, Mass., in 1895 for trial. This machine favorably attracted the attention of Draper Bros. and negotiations were entered into, with them looking to the purchase of the machine. However, Mr. Colman did not consider the machine completely satisfactory and brought it back to Rockford, where it was rebuilt, and in 1899 taken to the Merrimack Mills in Lowell, where he spent nearly the entire summer running the machine in actual mill operation. While much better than any of the other attempts he was still not satisfied, and returned the machine to Rockford for further redesign. It was on this trip that he conceived the idea of tying in the warps, instead of drawing them in, but apparently did nothing about it immediately.

It was on this trip also that he conceived the idea of a hand knotter for spooler girls, and he began work on this as soon as he returned to Rockford in the Fall of 1899. Ten of these hand knotters were tried out in the Merrimack Mill in January, 1900. This little machine was amazingly successful, and by July, 1901, Spengler Bros. was turning them out at the rate of 500 per month, and in 1902 the first building of the present plant was built.

The success of the hand knotter and further study of the warp replenishing problem led Mr. Colman to abandon for the time the idea of drawing in warps, and in 1904 he brought out the warp tying machine, the first one being tested out in the Olympia Mill, Columbia, S. C. With no major alterations this machine went into immediate production and practically every cotton weaving mill of any size in the world has been equipped with these machines.

In 1900, among other projects, he started work on automatic spooling and warping devices, and during the following years many different schemes were considered and worked upon, but it was not until 1912 that the first model of the present type of automatic spooler was installed in Bemis Bro. Bag Co. mill at Bemis, Tenn. After ten more years of development and testing with three complete installations in Bemis Bro. mills and one in the Pacific Mills at Dover, N. H., the present automatic spooler with the high speed warper which had been developed along with the spooler, were offered for sale to the public.

While he never attended an engineering school, he ranked among the first engineers in the country, and in 1935 the Franklin Institute awarded to Mr. Colman the Longstreth Medal for a most outstanding contribution to the textile machinery art, as represented by the automatic spooler.

He started business alone with an idea, and left behind an organization employing approximately 3,000 men and women, engaged in the manufacture of textile machinery, machine tools and cutters, electrical equipment, and molded plastics. Space is too short to give a list of his inventions, but they covered many fields outside of the textile art. He found his greatest pleasure in experimental work and has left behind research departments in every branch to carry on his developments. At the time of his death he was engaged in experimental work of a confidential nature in connection with national defense.

Outstanding Achievements in Safety

The following no-injury records are the best all-time records known to the National Safety Council. Each represents the number of continuous man-hours worked without a disabling injury:

World Records

Industry	*Co., Plant or Location*	*Injury-Free Man-Hours*
Tobacco	Bayuk Cigars, Inc., Philadelphia, Pa.	14,314,436
Chemical	E. I. Du Pont de Nemours & Co., Old Hickory, Tenn.	11,361,846
Machinery	General Time Instruments Corp., Westclox Div., La Salle, Ill.	11,114,600
Textile	The Trion Co., Trion, Ga.	10,495,544

Textile Industry

Cotton Mills	The Trion Co., Trion, Ga.	10,495,544
Knitting Mills	Hanes Hosiery Mills Co., Winston-Salem, N. C.	4,154,444
Finishing Mills	Sayles Biltmore Bleacheries, Inc., Biltmore, N. C.	4,147,461
Woolen Mills	Sanford Mills, Sanford, Me.	4,066,473
Clothing Mills	M. Wile & Co., Buffalo, N. Y.	3,653,642

—National Safety Council.

W. Irving Bullard Gets Patent On Loom Strap

Washington, D. C.—The U. S. Patent Office has granted a patent to W. Irving Bullard of Charlotte and Latt J. Carter of Kannapolis, N. C., on their invention of a check-strap for use in looms. Patent rights were assigned to E. H. Jacobs Mfg. Co., Inc., Danielson, Conn., for development and manufacture.

Other Tar Heel patents granted: Giles M. Teague, Burlington, and Joseph Wheeler Freshwater, Mebane, shuttle eye; and Theodoor Koch, Oosterbeck, Netherlands, assignor to American Enka Corp., Enka, N. C., composition for treatment of artificial silk.

July Issue of Textile Research

An accurate method for determination of twists in spinning is given, with formulas for correction of two common errors in previous methods.

A complete description is given of the textile manufacturing unit at the Marcus Hook plant of American Viscose Corp. This textile unit is set up for large scale applied research and is not only proving to be of great benefit to, but is entirely unique in the textile industry.

Other features in the July issue include a report on the effect of increasing the licker-in and flats in connection with tests being made of the effect of increasing card speeds.

There appears also an article entitled Elasticity of Wool, which compares the behavior of wool fiber under loadings both before chemically rupturing the cross-linkages and after rebuilding them. It also shows an analogy between wool and vulcanized rubber.

An article on World Economics and Post War Planning outlines some of the reasons why extreme economic nationalism and the international economy of the past have failed, and suggests the need of clarifying economic trends and of making plans *now* as a preliminary to the period of reconstruction.

Editorials discuss the competitive position of wool in relation to other fibers, suggesting the need of more research, also the trend toward unification in the textile industry is dealt with.

Mill Wins in Salary Case

In a finding of fact and an opinion filed in the office of the Federal Clerk of Court, Greenville, S. C., Judge C. C. Wyche found for the defendant in the case of Rexford L. Sauls, plaintiff, vesus Edgar C. Martin, doing business as the Hudson Narrow Fabric Mills of Easley, S. C.

The plaintiff had asked $771 in payment of overtime allegedly due him for work done from the time he was employed by the defendant in August, 1939, until he was discharged in August, 1941, and $500 attorney's fee.

In his finding of fact and opinion, Judge Wyche said that the plaintiff had been employed at $35 a week by the defendant to operate a small narrow fabrics mill at Easley, since the defendant knew nothing of such manufacture, the product of the mill, he said, was sold through the Hudson Narrow Fabrics Mills Co.

Judge Wyche said that the plaintiff had been discrepant in keeping a record of his overtime and had allowed considerable time to elapse before making claims for it.

He then declared that since the plaintiff had been employed as a superintendent, or as a supervisory employee, he was exempt from the wage and hour regulations under which he asked payment of the overtime.

Machinery Put Under WPB Textile and Clothing Branch

Washington, D. C.—Operations of the textile and shoe machinery branches of the War Production Board have been transferred from the Special Industrial Machinery Branch, which has been dissolved, to the Textile, Clothing and Leather Branch, where all matters relating to priority assistance for manufacturers of textile machinery will be administered under R. S. Dempsey.

Under the realignment, the Chemicals Branch will have supervision over plastics machinery, and the Rubber Branch will have charge of tire molding equipment. Matters relating to plastic machinery will be handled by James A. Lawson. Questions dealing with the distribution of industrial machinery will be administered by the appeals branch under the direction of A. E. Collins.

Packaging machinery and other equipment will be transferred to the General Industrial Equipment Branch.

Eliminate Monthly Report On Some Combed Goods

Elimination of the requirement for monthly reports of sales and deliveries of combed grey cotton goods for which ceilings are not established by Revised Price Schedule No. 11 (Fine Cotton Grey Goods) was announced July 17th by Price Administrator Leon Henderson.

For several months a report of this information had been required on Form No. 111:6 to inform OPA of the production and price trends of goods not under regulation. This action, through Amendment No. 3, was taken in response to a petition for amendment filed by Wamsutta Mills, New Bedford, Mass.

The Administrator has determined that the reporting requirement can be dispensed with in view of the fact that reports already submitted have furnished OPA with the necessary information and because, moreover, grey combed yarn fabrics not subject to Schedule No. 11 are now under ceilings established by other regulations.

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Cotton Good Markets

New York.—Much interest is being shown in the market concerning the wage rise in cotton textile plants which seems to have started in the Greenville, S. C., area and which is spreading. Just how generally it will spread is a matter of speculation, and some observers predict that if it is general throughout the industry some mills will find it hard to show a profit at the end of the year, particularly mills that are sold far ahead at close prices.

Most of the orders that mills are sold ahead on are Government contracts and these were in many cases taken at low prices in order to be able to obtain priorities on machinery and replacements, as well as yarn. The suggestion was made that if the War Labor Board should order an increase in wages, mills might possibly appeal to the Government and obtain some relief, but hopes that this might lead to any reimbursement were held remote.

Evidence continues to accumulate in sections of the cotton goods markets that the military procurement agencies are accumulating stockpiles of goods. Fabrics are being delivered under the old orders at a rate in excess of their current need to supply requirements of the growing armed forces, and to provide replacements and strategically located stocks. A number of instances have been cited where these agencies have delayed delivery on account of a temporary over supply of goods. It is noted that this is only temporary, and that not only will all goods now on order be wanted, but additional heavy purchasing may be expected, since simultaneously with the delays on some goods now on order, the military are checking production possibilities and indicating where they will need added amounts before long.

The quietness in the market with regard to consumer goods has persisted for about six weeks, and some have been hopeful that before long a change might be witnessed. While there have been reports of Government orders being placed from time to time in recent weeks, even the tempo of this business has slowed down and many are wondering just when a renewal of this activity might be expected.

Indications are that production of cotton gray goods is at a lesser rate today than might have been expected under pressure to make available a sufficiency of military and civilian goods. This falling off in production has always been a characteristic of the summer months in the past.

Reasons for the current lessening of production can probably be traced to the same reasons as in the past, hot weather reducing worker efficiency, vacations, workers staying out part of the week, etc.

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Cotton Yarn Markets

Philadelphia.—According to reports, spinners and their agents here are expecting the War Production Board to issue a new order increasing the percentage of combed yarns that must be set aside for military use only.

Under the present order dated May 28, 1942, M-155, combed spinners were required to earmark at least 40 per cent of their production of medium combed yarns and not less than 65 per cent of their coarse counts for the armed forces, to begin not later than June 29th. The order defined coarse counts as under 61s and medium from 61s to 90s.

Under the predicted combed order certain members of the trade speculate that the percentage of coarse numbers allocated for Government use will increase considerably, with some combed yarn operators asserting they expect the new coarse allotment to be about 80 or 85 per cent. They also expect the Government to reclassify combed into four subdivisions instead of only two as under No. 155, looking for these to be coarse, medium, fine and very fine. The net result is expected to be that more of the coarser counts than now will go on to the armed forces possibly more in medium but they also look for the new WPB order to permit combed spinners to sell more of the finer sizes, from 61s up, to civilian customers.

Full-fashioned hosiery manufacturers now unable to obtain only a very small poundage of fine combed yarns may obtain more of the sizes needed which would come in very handy now that the finer denier rayon yarns are being used more and more by the armed forces for various uses including parachutes.

For the major part of July new orders for cotton yarn are estimated to have averaged only about half as much as the current weekly rate of sale yarn production, according to market reports, and in parts of the list the July buying has been even smaller than this. Dullness is attributed to various causes but most of the distributors are said to be not alarmed over it. It is pointed out that even in normal peace-time years, July production frequently runs ahead of new buying.

In the combed yarn division, leading spinning mills and mercerizers expect to produce a total weight of yarn comparing favorably with the second quarter's monthly average, which marked the production peak for the entire war emergency period. July output of combed yarn by these mills probably will run between 50 and 60 per cent ahead of July, 1941, and more than double that of July, 1940.

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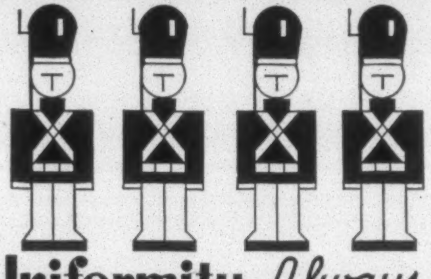

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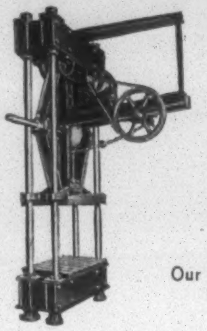

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Mildewproofing of Military Fabrics

(*Continued from Page 10*)

than heretofore, and since the latter is more uniform than burlap, unevenness of application of mildewproofers to this fabric is not encountered so frequently.

Toxicity

One of the requirements of a mildewproofed fabric is that it not be toxic to the user. Since the added compounds are toxic to one form of living organism (mold) it is reasonable to suspect that the agents might also be toxic to another (man). Accordingly, tests should be made to determine the toxicity of mildewproofed fabrics to the user. A "patch test," devised at the laboratories of the National Institute of Health, is usually followed in determining whether or not use of the treated cloth causes dermatitis. Sand bags and camouflage material treated with copper naphthenate, copper ammonium flouride, and by the cuprammonium process, are not toxic under the conditions of use, i.e., handling. These treatments, however, would not be satisfactory for cloth that was to be made into wearing apparel or bedding. As new compounds which inhibit the growth of molds are found, their toxicity to the user should also be determined. Fortunately, this problem is not so great with sand bags and similar materials since the amount of handling these materials receive is not sufficient to allow most substances to exert a serious effect.

Tests for Mildewproofing

The aim, at present, is to mildewproof fabrics so that they will give service for at least two years. Laboratory tests have been devised for estimating the mildewproofness and service properties of treated cloth. These tests, however, are time-consuming, and constitute a real problem because of the unprecedented yardage submitted for testing. Shorter tests for mildewproofness are desirable. The testing of treated fabrics and the evaluation of new protective agents would thereby be expedited.

The mildew resistance of cotton fabrics (and jute burlap) is frequently estimated by the *Chaetomium test.* Using the usual bacteriological technique, strips of fabric are exposed to the mold *Chaetomium globosum.* After an incubation period of seven days the cultures are examined. The untreated strips (run as controls) should be more or less covered with a gray-green tufted growth of mold. The treated strips may show amounts of growth varying from none to good, depending on the effectiveness of the mildewproofing treatment.

Chaetomium tests are sometimes accompanied by breaking strength measurements. At present, however, such measurements are usually omitted in routine testing.

In the Chaetomium test only one cellulose-decomposing mold is used. In the *soil inoculum test,* which is carried out similarly to the Chaetomium test, a suspension of numerous soil organisms, instead of just one mold is used as the inoculum. Breakdown of the fabric is, accordingly, usually more rapid than with Chaetomium, although the final results are similar. Since variations in the floral content of the different soils used to prepare the inoculum varies in different localities and at different times of the year, the results of tests from several laboratories are not always comparable. As with the Chaetomium test, the soil inoculum test may be accompanied by breaking strength measurements.

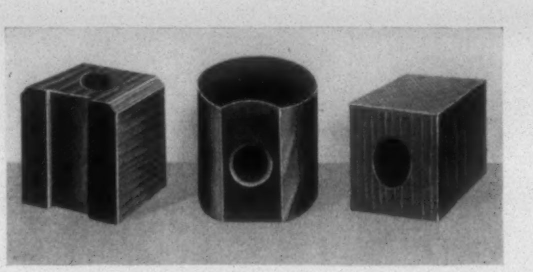
The *burial test* is more drastic in its action than either of the above tests. It consists, essentially, of burying pieces of the treated and untreated fabric in several inches of soil. The soil is watered daily, and at the end of several weeks the fabris is removed for examination. Breaking strength tests are run in order to determine the mildewproofing properties of the protective agent. Six weeks burial is considered to be equal to about one year of actual use.

As described in a previous section, where the mildewproofing agent is a copper compound, the copper content should not fall below a certain minimum in order to have the fabric adequately protected. Accordingly, chemical analyses must be made to determine if the necessary amount is present. The method of analysis consists essentially of ashing the material to remove the organic matter, dissolving the residue in nitric acid, and then determining the copper by titration. Merely knowing the percentage of copper does not, however, tell the whole story. It is equally important to know whether or not the copper is evenly distributed and whether it is present in a form that gives adequate protection. It is usually considered necessary, therefore, to run a mold test in conjunction with the chemical analyses.

Accelerated ageing treatments, which attempt to accomplish on a laboratory scale, and in a short time, the deterioration which occurs naturally under conditions of use are also employed. Water, heat, and artificial light are used as the degrading agents. Since it is necessary to know how well the milderproofed fabrics hold up after weathering, the analyses for copper and the mold tests are also run on fabrics that have received ageing treatments.

Laboratories Carrying on Investigations Related to Mildewproofing

A number of laboratories are now working on different aspects of the mildewproofing problem. Various bureaus of the United States Department of Agriculture, particularly the bureaus of Plant Industry, Chemistry and Soils, Agricultural Chemistry, Home Economics, and the Southern Regional Research Laboratory are carrying on investigative work. These laboratories are concerned chiefly with research and the development of methods of testing. Included in the latter are various mold tests for estimation of the mildewproofing of fabrics. Methods of accelerated ageing and the effectiveness of various chemical compounds as mildewproofing agents are also being studied. The National Bureau of Standards is doing some developmental work, but for the most part it is concerned with testing treated fabrics to determine whether they conform to Government specifications. Investigators at the National Institute of Health are particularly interested in mildewproofing insofar as the chemical compounds used as protective agents may be harmful to human beings. Undoubtedly various industrial laboratories also carry on work relating to mildewproofing, but their results, for the most part, have not been published.



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Enlisted for the Victory

(*Continued from Page 9*)

ered with yarns such as Bibb is spinning every day as a part of its contribution toward Victory.

Time is short. The emergency calls for hurried production of every foot of wire it is possible to squeeze out. With insulating machines of our customers being driven to the limit for production, the yarn has to be good yarn not to fail and slow down their production.

Bibb workers are making new records almost every day in turning out greater volume of yarn, which makes America stronger by furnishing insulation for wires which are the "nerves of War."

"Seventeen Pounds To a Soldier"

Just about the first thing handed to a new soldier something made of cotton—cotton socks, underwear, fatigue dress, summer uniforms and many other things. When they hand him a nine-pound rifle, he thinks it is heavy, but before his supply sergeant stops giving him the supplies necessary for his comfort, health and safety, he will receive *17 pounds* of things made of cotton. And that is just original clothing equipment. It does not even include his tent. Military estimates show that every American soldier will use an average of 250 pounds of cotton a year in everything from refrigerator belts containing cords from Columbus and Porterdale Mills to dynamite fuse made of yarns from No. 1 Mill and No. 2 Mill and from napsacks sewed with thread from Payne Mill to panzer hangars made of cloth from Osprey Mill.

The Bibb Columbus Mill folks make the drills for his mattress covers and mosquito bar base. Without mosquito nets, our soldiers could neither sleep in comfort nor live in health in the steamy, crawling jungles of the tropical South Pacific. Also his twill and herringbone uniform and fatigue dress come from the spindles and looms and the trained hands of Bibb Victory workers in Columbus.

The twine on the tags and tied around his laundry comes from Welaunee or Porterdale Mill. Almost every American naval ship that sails the seas has Bibb twine on it to whip the rope ends and to bind the cotton cloth that covers the guy ropes. Much of the cloth to cover the ropes comes from the Bibb Columbus Mill.

Every life boat has fishing equipment, and much of it is made of twine from Porterdale Mill.

The clothes of our soldiers are washed in nets, and many of these nets come from Osprey Mill, woven of yarns spun there and in Payne Mill.

Even the sand bags he uses for protection may be sewed with twine spun and twisted by Bibb workers in Payne Mill. These twines and threads are used for sewing many articles of equipment essential to the American soldier in his daily duties.

Spun Rayon and Cotton Blends

(*Continued from Page 12*)

3. When blending on drawing, the two fibers having approximately the same dyeing properties, satisfactory results can usually be obtained by making the desired blend on the breaker drawing and then processing the blend through two subsequent heads of drawing. While this does not produce a perfect blend, the dyeing properties of the two staples are usually close enough to prevent non-uniform finishing.

IV. The fourth method of combining these fibers is in the fabric. This brief outline of the methods used in combining cotton and spun viscose rayon would not be complete if we should fail to mention the numerous ways of constructing fabrics with yarns made of 100% cotton and 100% viscose rayon. One very common practice is to alternate one or more ends of cotton with one or more ends of rayon in the warp and to alternate these yarns in the same manner in the filling direction. End and end shirtings are quite popular as well as piques. Many gabardines are made with a spun viscose warp and a cotton filling. The larger percentage of drapery fabrics are made of spun viscose rayon and cotton combinations. Whether yarns are combined in the warp or the filling direction depends largely upon the effect desired.

The most recent developments employing these yarns are diapers and towels. The rayon lends a soft luxuurious touch and increases absorbency, while the cotton stabilizes and adds to the wet strength. The fabrics mentioned are only a few samples of these combinations, but they will serve as an illustration of what has been accomplished, and serve as a springboard for further developments of interesting fabrics.

Reminiscences Of Ye Olde Cotton Factory

(*Continued from Page 14*)

outward and all at the same level and set to 7 to 10 one-thousandths inch from the feed plate. The feed roll, a fluted roll about 2 inches in diameter and weighted to draw the sheet of cotton from the lap, was placed directly about the inmost wedge of the feed plate, which was 7 or more inches wide thus bringing the cotton into contact with the lickerin.

This lickerin was set to the perfectly straight edge of the feed plate at 7 to 10 one-thousandths inch away, permitting a "combing" effect upon the sheet of cotton by the lickerin, as the thin sheet moved slowly between the feed roll and plate, under the lickerin and on to the cylinder to be carried around and between the cylinder and flats, a space of 7 to 12 one-thousandths inch, between thousands of fine needle pointed steel wires, carding and combing out all the fine particles of trash which the picker (lapper) let get through, and dropping them through small openings at bottom arranged for that purpose.

This sheet of cotton was thus transformed into a one inch roll of most beautiful downy "sliver" and now ready for the journey through the railway box and to the railway head, a very high quality of carded cotton that will be very difficult to approach.

The card grinder was permitted to exercise his own judgment in varying his settings to conform to unusual and unexpected conditions arising from time to time, but he set a standard that the "boys" of this period still have to look up to and respect.

Inasmuch as the transformation of raw cotton after ginning, opening, cleaning and lapping preparatory for proper carding, required a tremendous volume of research, experiment and hard work and constant, persistent effort to overcome the numerous handicaps being met time after time, the problem was taken quite seriously by all concerned.

Consequently the old wood cylinder and flat outfit,

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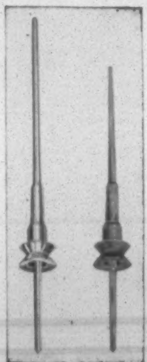

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W. Franklin Ave., Ext.
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though good in its day, could not begin to keep the new pace, gave way to a machine which had come through a long period of development and preparation and was now ready to start on its career of revolutionizing the carding division of the industry.

The new revolving top flat card (previously introduced) was equipped with a larger lickerin, a larger cylinder, smaller flats (closer together, giving more working space) self-grinding and stripping attachment, permitting these two performances without hindering the productivity of the card.

The cylinder was a cast iron shell about ½ to ¾ inches thick by 50 inches in diameter by 40 inches long (the length corresponding to width of the card), mounted on a heavy steel shaft by means of a heavy "spider" on each end of cylinder, and perfectly balanced.

The outer or working surface of the cylinder was ground and polished to a perfectly smooth finish, to receive the "clothing."

This clothing, instead of strips of heavy cloth holding the wire and being tacked on cylinder crosswise, was of a similar wire—filled fabrics about two inches wide and of a sufficient length to wind around the cylinder continuously from one end of the cylinder to the other and firmly fastened, thus presenting a hundred per cent cylinder working space.

On each side of the frame and at end of cylinder was a flexible steel arch formed to stand a proper distance from the surface of the cylinder to hold the flats at their proper working position.

The flats were fastened to a heavy chain at the end, the chains moving on the arches at a very slow speed carrying the flats over the cylinder to a point two-thirds around cylinder, thence back over a series of pulleys and forming a revolving top-flat arrangement about 100 flats with card wire—filled fabrics about one inch wide by 40 inches long, all resembling a broad steel link belt, a perfectly timed, perfectly co-ordinated, perfectly balanced specimen of mechanical precision.

The doffer was much larger and could be run at a higher rate of speed which meant increased production.

The stock was delivered from the doffer through a condensing tube, then between two weighted calender rolls and through a circular rotating coiler device and into a 12x36-inch metal (tin) or fibre can in a continuous, nicely coiled, beautifully carded "sliver" all ready for the drawing.

Gone was the old railway box and railway head.

The new type of drawing frame built to work in conjunction with the new card with the coilerhead, could take care of much more stock with less effort.

Also the new card was equipped with a very much wider range of adjustments or "settings" of working parts that soon attracted considerable attention.

If the superintendent had an inquiry for a certain style of yarn or cloth of whatever number, weight of grade, he was much more able to accept the order for he now had a bunch of cards that would give him anything he wanted.

The old "card hand" was "awful proud of them newfangled kyards; he'd soon git used to doffiin' out 'em 'ar cans" hauling laps on trucks 4 to 6 at a load lots better 'n totin' 'em 'way from the picker room."

Pilot Walter Clark Commended

When, on a recent morning broadcast, the Columbia correspondent at Cairo, Egypt commended pilot Lieut. Walter Clark, of Lincolnton, N. C., for going on to sink an Axis ship at Tobruk, after his B-24 bomber had been set on fire and one engine put out of business by anti-aircraft fire and then bringing his crippled bomber to a perfect landing, he was mentioning a young man who has many connections in the textile industry.

Lieut. Walter Clark is a son of Thorne Clark, agent of the Massapoag Mills, Lincolnton, N. C., a nephew of David Clark, editor of the TEXTILE BULLETIN, John W. Clark, president of the Randolph Mills, Franklinville, N. C., and the Locke Cotton Mills, Concord, N. C., and W. A. Graham Clark, textile expert of the U. S. Tariff Commission, Washington, D. C.

He is also a nephew of B. B. Gossett, president of the Gossett Mills and the Chadwick-Hoskins Co., Ralph Gossett, textile supply dealer of Greenville, S. C., and Mrs. R. I. Dalton, wife of one of the Southern representatives of the Whitin Machine Works.

Lieut. Walter Clark, now 23 years of age, received his air training in Texas and Florida and went over about six weeks ago as first pilot of one of a squadron of B-24 four-motor bombers. He is supposed to have participated in the bombing of the Rumanian oil fields and the Italian warships.

Sonoco Products Files Debentures Issue With SEC

Sonoco Products Corp., Hartsville, S. C., manufacturer of paper cones and tubes and other paper products, has gled a registration statement with the Securities and Exchange Commission in Philadelphia, covering the issuance of one million dollars of serial debentures.

The proceeds will be used to reduce bank debts and augment working capital.

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AKRON BELTING CO., THE, Akron, O. Sou. Reps.: The Akron Belting Co., 15 Augusta St., Greenville, S. C.; The Akron Belting Co., 406 S. 2nd St., Memphis, Tenn.

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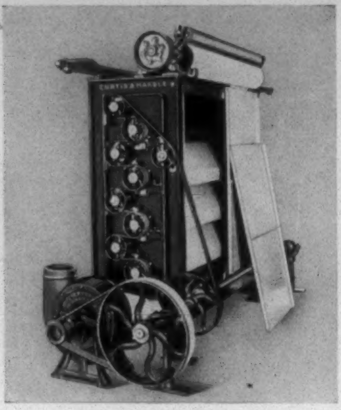

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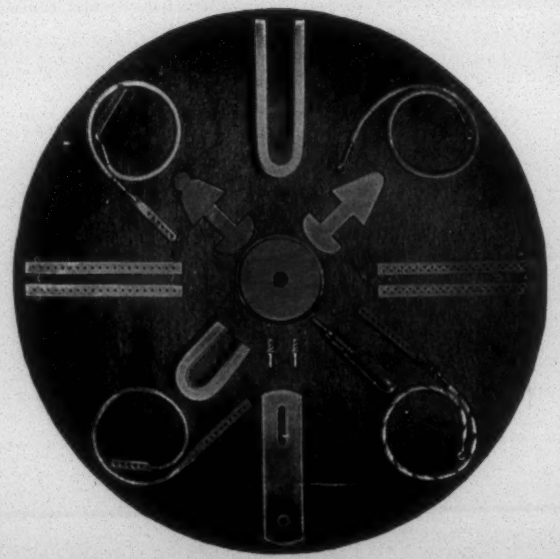

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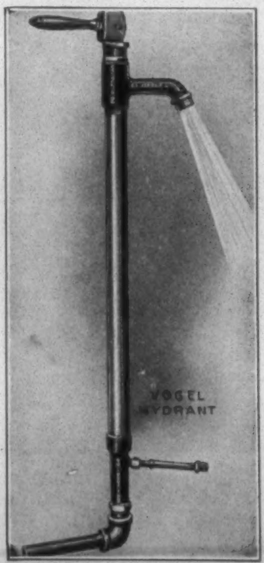

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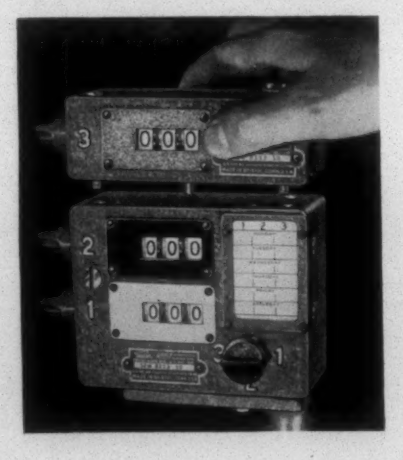

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